INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

2021 Annual Reports

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment
IC 13-14-1-17

Table of Contents

Permit Process Report

Permit Efficiency:

Total calendar days accumulated in issuing environmental permits (includes issued and pending permits), as determined by state statute for the latest monthly period as of 9/30/21 by IDEM Office.

Green is at or below 75% Yellow is above 75% and at or below 95%

	Current	75%	95%	Statutory
Land	18,334	16,781	21,256	22,375
Air	44,694	66,206	83,861	88,275
Water	38,861	50,985	64,581	67,980
Totals	**101,889**	**133,972**	**169,698**	**178,630**

Permits - Percent of Statutory Days
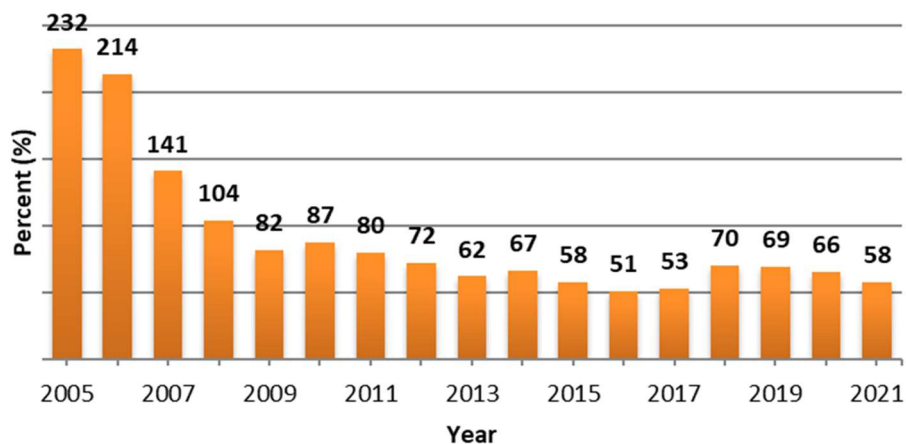
Permitting Efficiency:
Measures the percent of total average deadline days for issued and pending permits by IDEM Office.

IDEM Office	12-Month Rolling Average	Target Value (%)
Air	60.3	75.0% or Less
Land	61.7	75.0% or Less
Water	53.4	75.0% or Less

Air: Enforceable Operating Agreement Program Report (IC 13-17-13)

The Indiana Department of Environmental Management (IDEM) has a Source Specific Operating Agreement (SSOA) program (pursuant to 326 IAC 2-9) under which specific types of activities may operate, provided that the source accepts the pre-established terms of the SSOA "as is." Although a source may not simultaneously operate under more than one of the same type of SSOA, sources can operate under up to 4 different SSOAs, as long as the total potential to emit for any regulated pollutant, as limited by the SSOAs, does not exceed major source levels.

In all, there are 23 separate SSOAs available to applicants, covering 13 specific types of activities. For those SSOAs that limit the total potential to emit for any regulated pollutant to less than twenty-five (25) tons per year, a public comment period is not required (for a list of these SSOAs, see 326 IAC 2-1.1-3(d)). However, pursuant to 326 IAC 2-5.1-3(a)(1)(E), for those SSOAs that have a limited potential to emit for any regulated pollutant of twenty-five (25) tons per year or more, a New Source Review (NSR) Permit for approval to construct and a thirty (30) day public comment period is required. The final issuance of any SSOA is appealable. With the exception of coal mining and some stone crushing SSOAs there is no annual fee required, but sources are required to file an annual Compliance Notification. Sources are not required to renew their SSOA.

Pursuant to 326 IAC 2-9-1(i), a SSOA does not relieve the Permittee of the responsibility to comply with the provisions of any other applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61 or 40 CFR Part 63.

As of June 30, 2020, there were 770 currently permitted Source Specific Operating Agreement (SSOA) sources. In FY20 (July 1, 2019 – June 30, 2020) there were SSOAs issued to 17 sources. To date, July – September 2020, there have been 2 new SSOAs issued to sources.

Land: CFO/CAFO Activities (Senate Resolution 2512-2007)

The Indiana Department of Environmental Management's (IDEM) Office of Land Quality administers the animal feeding operation regulatory program in Indiana. This program includes permitting, compliance monitoring and enforcement activities for 1808 Confined Feeding Operations (CFOs) and 0 Concentrated Animal Feeding Operations (CAFOs) for a total of 1808 operations subject to permitting and inspection. In accordance with Senate Resolution 2512 the below information is provided by the Indiana Department of Environmental Management for the time period July 1, 2019 through June 30, 2020.

CFO and CAFO Inspections
Inspection Conducted from July 1, 2019 to June 30, 2020

Permit Type	Reason for Inspection *(definitions on following page)*	Number of Inspections
CFO	Paperwork (CoC) Follow-Up	7
	Compliance Assistance	11
	Construction	31
	Complaint Inspection	3
	Follow-Up Inspection	19
	Routine Inspection	196
	Spill Response Inspection	1
	Exit/Closure	14
	Other (permit, enforcement, site status…)	7
	Total	**289**
CAFO Size CFO	Paperwork (CoC) Follow-Up	5
	Compliance Assistance	19
	Construction	100
	Complaint Inspection	7
	Follow-Up Inspection	14
	Routine Inspection	165
	Spill Response Inspection	2
	Exit/Closure	1
	Other (permit, enforcement, site status…)	11
	Total	**324**
CFO/CAFO Totals	**Paperwork (CoC) Follow-Up**	**12**
	Compliance Assistance	**30**
	Construction	**131**
	Complaint Inspection	**10**
	Follow-Up Inspection	**33**
	Routine Inspection	**361**
	Spill Response Inspection	**3**
	Exit/Closure	**15**
	Other (permit, enforcement, site status…)	**18**
	Total	**613**

CFO and CAFO Violations
Violations Cited from July 1, 2019 to June 30, 2020

Permit Type	Citation/Violation	Number of Violations
CFO	Approval and Performance Standards	3
	Discharge and Spill Requirements	3
	Land Application Records	28
	Operating Records	7
	Operational Standards	15
	Land Application	7
	Total	**63**
CAFO Size CFO	Approval and Performance Standards	1
	Discharge and Spill Requirements	5
	Land Application Records	11
	Operating Records	7
	Operational Standards	7
	Land Application	9
	Total	**40**
CFO/CAFO Totals	**Approval and Performance Standards**	**4**
	Discharge and Spill Requirements	**8**
	Land Application Records	**39**
	Operating Records	**14**
	Operational Standards	**22**
	Land Application	**16**
	Total	**103**

Permitting Activities: CFO and CAFO Application Details from July 1, 2019 to June 30, 2020

Application Type	Received	Issued	Denied	Withdrawn
CFO Approval Applications	**78**	**67**	**0**	**6**
Individual NPDES CAFO Permit Construction Applications	**0**	**0**	**0**	**0**
Large CAFOs	*0*	*0*	*0*	*0*
Med. CAFOs	*0*	*0*	*0*	*0*
Small CAFOs	*0*	*0*	*0*	*0*
Total Construction Applications	**78**	**67**	**0**	**6**
Individual NPDES CAFO Permit Coverage Application	**0**	**0**	**0**	**0**
Large CAFOs	*0*	*0*	*0*	*0*
Med. CAFOs	*0*	*0*	*0*	*0*
Small CAFOs	*0*	*0*	*0*	*0*
Individual NPDES CAFO Permit Renewal Application	**0**	**0**	**0**	**0**
Large CAFOs	*0*	*0*	*0*	*0*
Med. CAFOs	*0*	*0*	*0*	*0*
Small CAFOs	*0*	*0*	*0*	*0*
Total Other NPDES Permit Applications	**0**	**0**	**0**	**0**
All Application Totals	**78**	**67**	**0**	**6**

Hazardous Substance Response Trust Fund Report IC 13-25-4-25

In Fiscal Year (FY) 2021, the Hazardous Substance Response Trust Fund (Trust Fund) saw revenue exceed expenses for the first time since FY 2018. The beginning balance of the Trust Fund for FY 2021 was $6,843,475. The total revenue from cost recovery, enforcement penalties and hazardous waste disposal tax in FY 2021 was $5,304,746. Total expenses for FY 2021 were $ $4,133,920. This left a year-end asset balance of $8,007,956.

Expenses for FY 2021 were lower than for 2020. The revenue for FY 2021 was significantly increased compared to FY 2020 levels. Increases in revenue were due to increased fees for hazardous and solid waste disposal, an increase in State Cleanup Program cost recovery and recovery of closure settlement costs for the 0153 Groundwater Contamination Site in the State Cleanup Program.

The following graph depicts the recent financial trend for the Hazardous Substance Trust Fund:
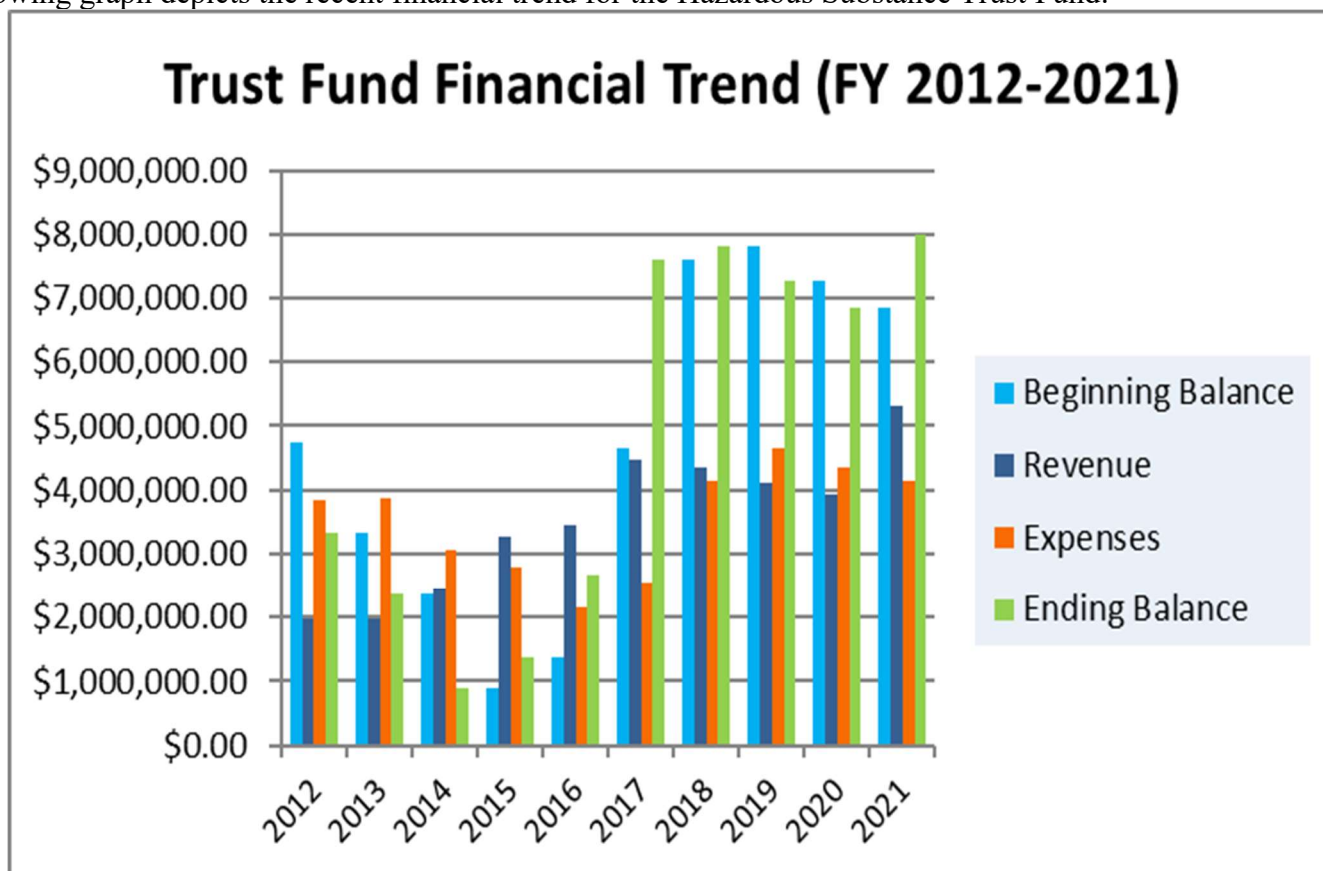
The expenses for the Trust Fund include the State Cleanup Program (SCP), Federal grant matching money for cleanup of sites listed on the National Priorities List (NPL or Superfund), and long-term operation and maintenance of sites completing the Superfund process.

The SCP is an enforcement program in the Remediation Branch of the Office of Land Quality. Administrative costs to operate the SCP are paid out of the Trust Fund and is the largest administrative expense to the Trust Fund. The role of the SCP is to manage the remediation and closure of hazardous substances and petroleum contaminated sites not eligible to be managed by the Federal Superfund Program or by the IDEM Petroleum Remediation Sections. Common examples of SCP sites include current and former dry cleaners, current and former manufacturing facilities, petroleum pipelines, refineries, and petroleum bulk storage facilities. The sites within the SCP range from less than a quarter acre of contaminated area to ground water impacted areas well over

a mile in length. Typical contaminant exposure risks associated with sites in SCP are contaminated residential and municipal wells, contaminated indoor air of residential homes or contaminated surface waters and waterway sediments.

The SCP is partially financially self-sustaining through the ability to recover operating costs from parties responsible for conducting a contaminant cleanup. SCP operating and management costs are recovered and placed back into the Trust Fund and included as a revenue stream for the Trust Fund. In FY 2021, $1,472,955 was recovered from responsible parties by SCP. This is back to past levels exceeding the targeted $1,000,000 annual goal.

The bar graph below depicts the total number of hazardous substance and petroleum contaminated sites historically and currently being managed by the State Cleanup Program under the Trust Fund.
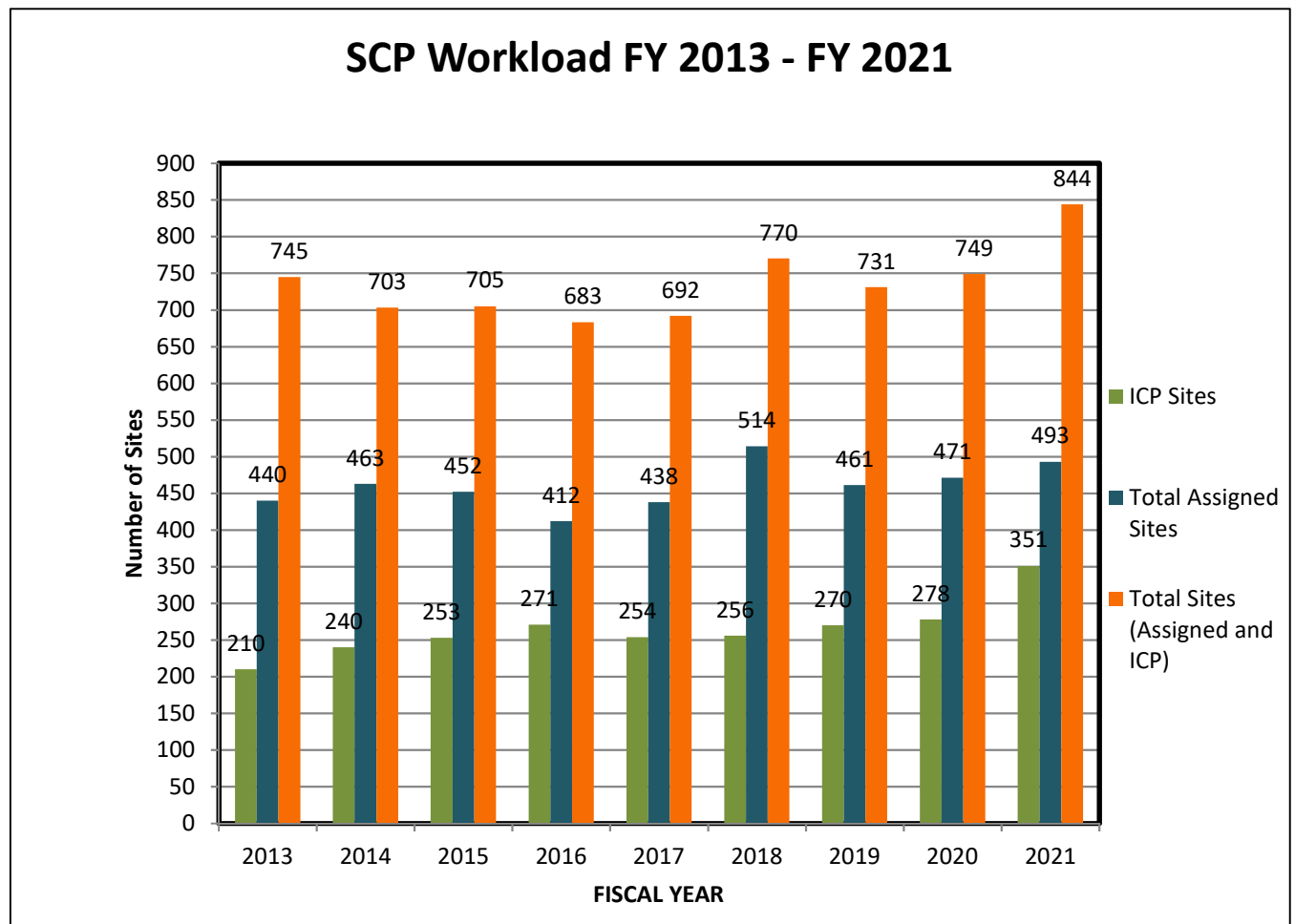
From FY 2013 to FY 2020, SCP has continued to see a stable trend in the total number of sites requiring remediation oversight. However, in FY 2021, SCP saw an increase in the total number of sites. The total number of active sites in the SCP as of FY 2021 was 844. As of the close of FY 2021, the SCP had 493 high and medium priority sites hazardous substance contaminated sites assigned to 11 SCP project managers. The total number of sites in the Independent Closure Process (ICP) was significantly higher in FY 2021 with a total of 351.

During FY 2021, the SCP completed closure of 25 sites. The SCP has overseen the closure of 1,236 sites during the history of the program. The following graph depicts the site closure trend since FY 2012:

Waste Tire Annual Report (IC 13-20-13-8)

<u>The Waste Tire Management Fund</u>

Indiana Code (IC) 13-20-13-8 establishes the Waste Tire Management Fund (WTMF) to support Indiana's Waste Tire Management Program. The WTMF includes the remediation and removal of improperly disposed waste tires, promotion of the utilization of processed tire products, and the provision of financial assistance to reduce waste tire generation. Management of the WTMF was transferred from the Office of Lieutenant Governor to IDEM on July 1, 2007. Table 1 represents the revenue and expenditures administered through the fund for Fiscal Years 2008 through 2018.

Table 1: Revenue and Expenditures

Fiscal Year	Fee Revenue	IDEM Grants	IDEM Cleanups
2008*	$1,596,240	$292,644	$0
2009*	$1,623,795	$1,000,000	$592,705
2010*	$2,299,645	$0	$0
2011*	$1,380,044	$0	$0
2012*	$1,325,612	$0	$779,873
2013*	$1,362,464	$210,679	$0
2014*	$1,568,844	$0	$0
2015	$1,571,211	$0	$0
2016	$1,632,663	$0	$0
2017	$1,645,090	$0	$0
2018	$1,608,193	$0	$294,845
2019	$1,608,876	$0	$30,000
2020	$1,570,338	$0	$22,000
2021	$1,866,870	$0	$0

Suspension of Waste Tire Management Grant Program

The Indiana Department of Environmental Management (IDEM) has temporarily suspended the grant program. Due to the suspension of the grant program, no projects were funded, and no money was expended for FY 2015. Estimates of money required to meet grant requests or recommended changes to the program will not be provided through this annual report until the grant program is reestablished. This report will only review the WTMF as related to the management of waste tires through this program.

<u>The Waste Tire Management Program</u>

The Office of Land Quality (OLQ) is responsible for regulating waste tire management activities. Indiana

Administrative Code (IAC) 329 15 provides the framework for the 81 transporters, 16 processors, and 10 storage facilities that maintain waste tire registrations.

More than 9 million passenger tire equivalents (PTEs) were received by waste tire processors. Figure 1 shows how waste tires were utilized from January to December of 2020.

Figure 1: Waste tire utilization for Calendar Year 2018.

WASTE TIRE UTILIZATION	TONS
Landfill (Solid Waste)	32,828.52
Landfill (Alternate Daily Cover)	33,030.94
Tire Derived Fuel	14,850.71
Legitimate Use – Civil Engineering	14,003.20
Legitimate Use – Other	85,611.08
Other	43,369.03

The following sections detail the registration program that is supported by the WTMF: Waste Tire Transporters

Waste tire transporters hauling waste tires in Indiana pay a $25 application fee for their initial 5-year registration, after which they can renew for free. There is an annual $25 operating fee. Transporters must also maintain a financial assurance mechanism of at least $10,000. Transporters must annually report the number of waste tires hauled. A list of currently registered transporters with IDEM may be found online at: https://www.in.gov/idem/waste/files/permits_issued_reg_facilities_waste_tire.pdf

Waste Tire Processors Facilities

The application and renewal fee for a 5-year waste tire processing registration is $200. There are no annual operating fees for waste tire processing facilities. They must annually report the number of tires processed and how the waste tires are utilized. If a processor accumulates more than 1,000 tires, they must also register as a storage site.

Waste Tire Storage Facilities

Waste tire storage is limited to 1,000 tires outdoors or 2,000 tires indoors without needing a permit. Waste tire storage sites must register if they plan on storing waste tires above those limits. The application fee for the initial registration is $500, but there is no renewal fee. Waste tire storage facilities also pay a $500 annual operating fee, and they must establish financial assurance. The financial assurance is based on third-party cleanup costs for the volume of material stored on the site. There are no renewal fees for storage sites.

list of waste tire processors and storage facilities currently registered is available at: https://www.in.gov/idem/waste/files/permits_issued_reg_facilities_waste_tire.pdf

Registration applications, annual reporting forms, and manifest forms for transporters, processors, and

storage   facilities are available at: https://www.in.gov/idem/forms/idem-agency-forms/#olq_tires

Compliance and Enforcement
Enforcement actions are initiated by OLQ to correct violations, assure facility compliance, and facilitate clean-up of tire dumps that represent a threat to human health and the environment. For the time period of July 1, 2020 to June 30, 2021, Enforcement has received 4 enforcement referrals including waste tire violations.

Major sources of waste tires are subject to OLQ compliance inspections for proper waste tire management practices.   These include vehicle maintenance facilities, transportation companies, new and used tire dealers, tire retreading plants, and auto salvage operations.

Although waste tire generators or sources are not required to register with OLQ, IC 13-20-14 has waste tire management requirements for specific operations.

New tire retailers are required to accept the same number of waste tires that are replaced by new tires purchased by the consumer. A handling charge is collected by the dealer for this service, in addition to a $0.25/tire new tire fee. All sources of waste tires are responsible for delivery of their tires to an approved processing facility. This service is provided by registered waste tire transporters. All major sources of waste tires are required to maintain records of waste tire manifests that document proper waste tire management.

## PERMITS Administratively Extended NPDES Permits (IC 13-14-1-17(4))

NPDES Permit Renewals	
Number of Pending Admin Extended NPDES Renewals Submitted On-Time	1
Number of Pending Admin Extended NPDES Renewals Submitted Late (< 180 days prior to expiration date)	0
Number of Pending Admin Extended General NPDES Renewals Submitted Late (< 90 days prior to exp date)	0
Total Number of Pending Admin Extended NPDES Renewals as of 6/30/2021	1
Number of Months the NPDES Permit has been Administratively Extended	3
Number of Months the NPDES Permit processing suspended under IC 13-15-4-10	0

* Additional Notes	
Of the Pending Admin Extended NPDES permit renewal(s), number which have already been public noticed.	1
(Please also note that this backlogged NPDES permit renewal has since been issued by IDEM on 9/17/2021.)	
EPA-defined Permit Backlog (only counts a permit as backlogged if it is still pending > 180 days past the Expiration Date)	0

New NPDES Permits	
Number of Pending New NPDES applications exceeding the statutory timeframes of IC 13-15-4-1	0

Annual Recycling Report (IC 4-23-5.5-6)

The Recycling, Education, and Quality Assurance Section within the Office of Program Support provides financial and technical assistance to develop recycling activities through two means: the Solid Waste Management Fund (SWMF) (IC 13-20-22-2) and the Recycling Market Development Program (RMDP) (IC 4-23-5.5-14). The RMDP works to reduce solid waste disposal and increase Indiana's recyclable material manufacturing capacity, as well as increase the use of recycled products by working with local units of

government, solid waste management districts, schools, nonprofits, businesses, and recycling industries. Promoting the concept of collecting, using, and producing recycled materials in Indiana supports the agency's initiatives of job creation and economic stability leading to environmental stewardship of natural resources. Relaunched in 2019, after a suspension of recycling grants offered through the SWMF, the Community Recycling Grant Program (CRGP) assists in meeting the goals of the SWMF. The SWMF's goals complement the RMDP and promote recycling, waste reduction, management of yard waste, and household hazardous waste source reduction or recycling.

Solid Waste Management Fee

50¢

25¢ → **Solid Waste Management Fund**

25¢ → **Recycling Promotion and Assistance Fund**
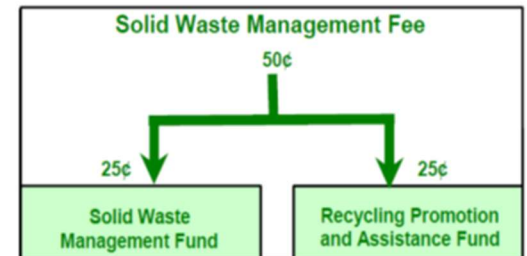
Total revenue received for the RPAF for Fiscal Year (FY) 2020 was $2,231,341.

Funding for the SWMF and RPAF comes from the Solid Waste Management Fee (IC 13-20-22-1). The fee consists of a charge of $0.50 per ton on solid waste, which includes municipal solid waste (MSW), non-MSW, as well as construction and demolition debris (C&D) for final disposal at Indiana MSW landfills and incinerators. According to statute, the revenues are evenly deposited into the SWMF and the Recycling Promotion and Assistance Fund (RPAF). The SWMF supports the Community Recycling Grant Program. The RPAF supports the Recycling Market Development Program.

To support IC 4-23-5.5-14 goals of promoting and recycling throughout Indiana by focusing on economic efforts, the RMDP offers grants to eligible Indiana government, solid waste management districts, schools, organizations. Funding decisions for the RMDP projects the Recycling Market Development Board.

Total of *$1,000,000* was awarded for grants from the Recycling Market Development Program in FY 2021.

assisting development businesses, local and nonprofit are approved by

Eight Indiana organizations received grant funding last year totaling $1 million to expand recycling in the Hoosier state. The joint effort represents nearly $3 million in expected total investments that will benefit the environment and economy. These projects increased the amount of recycling for curbside recyclables, plastics, cardboard, and e-waste from municipal solid waste by almost 6,700 tons per year.

Dearborn County Solid Waste Management District – Awarded $15,212.50 to purchase recycling drop boxes for collection of cardboard. The district projects a 25% growth of corrugated cardboard recycling resulting in an additional 48 tons per year.

Elliott Company of Indianapolis, Inc, Marion County – Awarded $18,184.44 to conduct a research project to determine secondary use for polyisocyanurate (PIR) foam known as ELFOAM to reduce industrial waste from production. The research plan will prepare samples and obtain data to ascertain whether pelletized recycled ELFOAM® is a viable substitute for light weight stone aggregate in roof top and small aesthetic urban garden applications. The project has the potential to divert up to 500 tons of scrap waste from landfills.

Recycling Works, Inc., Elkhart County – Awarded $478,599.06 to upgrade their material recovery facility with a new system feed/presort conveyor, OCC screen, glass breaker system, medium polisher system, optical fiber sorter, and optical container sorter. The upgrades will increase processing capacity and help to divert an expected 435 tons waste from landfills.

reTHink, Inc, Vigo County – Awarded $10,454.00 to purchase an injection mold, extruder, and sheet press to up-cycle plastic materials. The equipment will help divert up to 26,000 pounds of plastic from landfills in the first year. Once fully operational they expect a processing capacity of 117,480 lbs.

Richmond Sanitary District, Wayne County - Awarded $220,000.00 to purchase a recycling truck and curbside recycling container to expand the city's curbside recycling program to include a source separated cardboard collection. The city believes the project will result in doubling the amount of cardboard diverted from the landfill resulting in 328 tons recycled yearly.

Rush County Solid Waste Management District – Awarded $10,050.00 to purchase a cardboard compactor to effectively capture cardboard in a manner that meets the increase in material while reducing the cost of transportation.

Technology Recyclers, Marion County – Awarded $97,500.00 to launch a marketing and education campaign to encourage hazardous electronic-waste recycling. The goal is to increase e-waste collection by 25% up to 2,961 tons per year.

Tri-State Resource Recovery Center (TSRR), Vanderburgh County – Awarded $150,000 to purchase a specialized robotic system to process polypropene (#5 plastic) at their material recovery facility. An additional 20% of HDPE (or #2 plastic) and additional 30% of PET (or #1 plastic) is estimated to be recovered during manual sorting due to the new equipment increasing efficiency on the sorting line.

Since 2008, the Recycling Market Development Board has awarded funding for 116 projects totaling over $8.8 million, created an estimated 850 jobs, and diverts over a million tons of recyclable materials annually. The included map shows the locations for grant funded projects in FY 2021.

Fiscal Year 2021 Recycling Market Development Program Grants

Indiana Department of
Environmental Management

**RECYCLING MARKET
DEVELOPMENT PROGRAM**

RMDP

1. **Dearborn County Solid Waste Management District**

2. **Elliott Company of Indianapolis, Inc**

3. **ReTHink, Inc**

4. **Recycling Works, Inc.**

5. **Richmond Sanitary District**

6. **Rush County Solid Waste Management District**

7. **Technology Recyclers**

8. **Tri-State Resource Recovery Center (TSRR)**
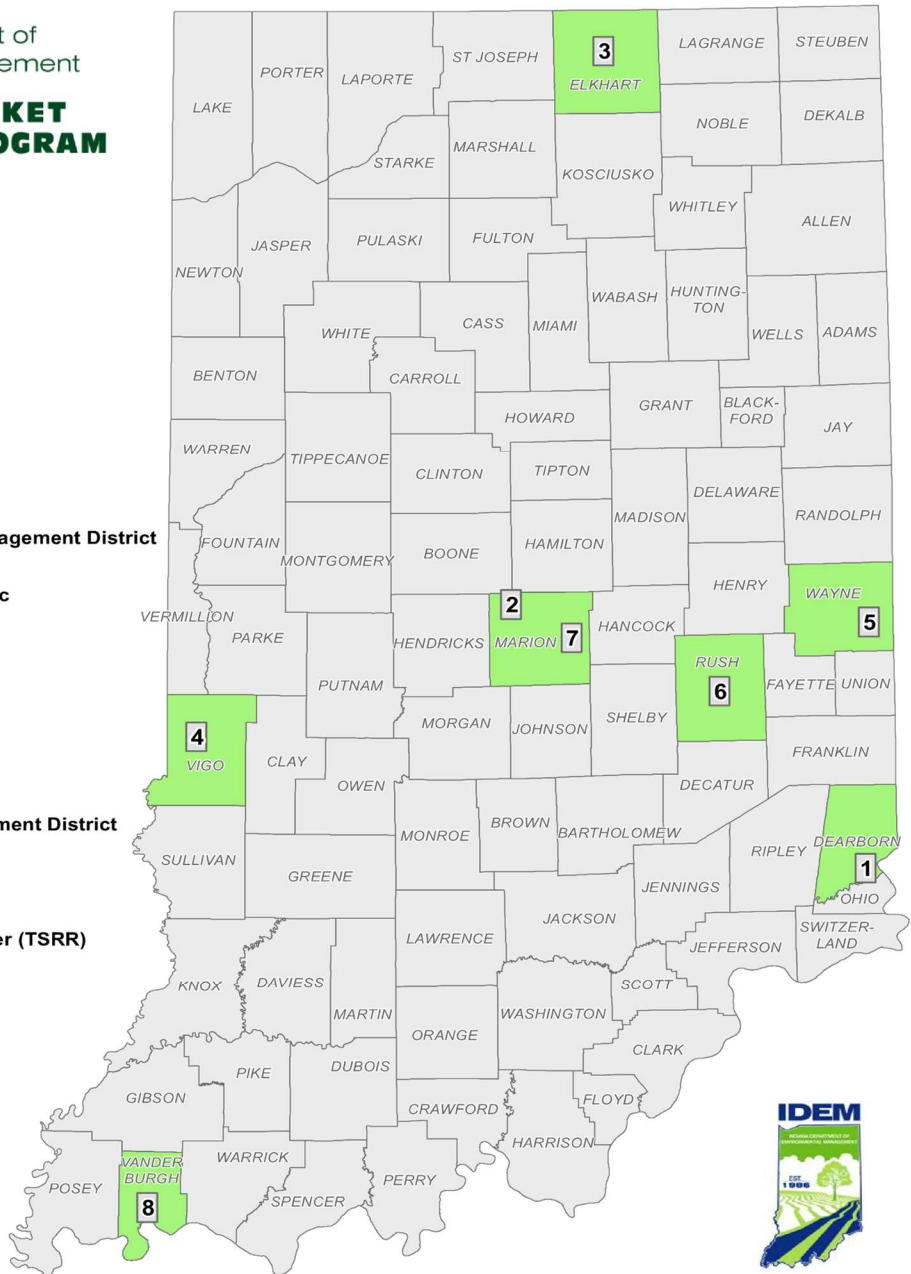
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Mapped By: Sonia Davidson, Information Services | Office of Program Support
Created: 10/19/2020

Sources:
Recycling Market Development Program Grants list is maintained by the Recycling Market Development Program in the Office of Program Support.
Data - Obtained from the State of Indiana Geographical Information Office Library
(www.indianamap.org)
Map Projection: UTM Zone 16 N   **Map Datum:** NAD83

0   12.5   25   50 Miles

For more information about recycling in Indiana and recycling resources, please visit the *Recycle Indiana* Web site at: www.recycle.IN.gov .

E-Waste Report (IC 13-20.5-7-4)

Executive Summary

Indiana's Electronic Waste (e-waste) law (IC 13-20.5) has assisted in the recycling of over 350 million pounds of electronics while expanding electronic collection access for Indiana residents. E-waste continues to be one of the fastest-growing waste streams worldwide. Indiana is currently one of 25 states (including the District of Columbia) with e-waste legislation and plays an important role in managing the numerous challenges presented by the significant volumes of e-waste generated each year in the United States.

This report will examine the last eleven years of the program as well as provide the required annual information mandated by the Indiana legislature. For example, highlighting Program Year 11 (PY11), the year 2020, manufacturers collectively funded the recycling of 16,424,012 pounds of covered electronic devices (CEDs). Majority of the weight recycled as part of the program continues to be collected from metropolitan counties in the state, as opposed to non-metropolitan counties.

An analysis of the 11 years of the Indiana E-Cycle program reveals that each program year, manufacturers collectively met their recycling obligation after the inclusion of recycling credits. To date, manufacturers have had a total of 224,898,491 pounds of CEDs (actual pounds without incentives) from Hoosier households, small businesses, and public schools recycled on their behalf to fulfill program recycling obligations. Households, small businesses, and public schools in Indiana are known as covered entities. While baseline data on e-waste recycling rates prior to the passage of the Indiana E-Waste Law is not available, the Indiana Department of Environmental Management (IDEM) is confident that more e-waste has been recycled in the state since the implementation of the law than would have been recycled otherwise.

This year marks the fourth consecutive year that the manufacturer's collective recycling obligation increased from the previous program year. This increase in large part is due to an increase in total sales of video display devices to Indiana households. Since the implementation of the Indiana e-waste law, the nature of electronics being sold and purchased has changed significantly. Due to the increase of smaller and lighter electronic devices, the total weight-based recycling obligations for manufacturers have largely been declining since the program's inception. Demand, however, for the collection and recycling of e-waste in the state has not decreased, and the cost to collect this material is becoming more difficult for e-waste collectors. The costs associated with the collection of cathode ray tube devices are especially burdensome, as dwindling markets and lower commodity prices have increased costs for recyclers, which ultimately get passed down to collectors.

Covered Electronic Devices (CEDs):

- VDDs (televisions or computer monitors, including laptops, netbooks, notebooks, tablets, and e-readers, that contain a cathode ray tube or flat panel screen with a screen size that is greater than four inches measured diagonally)

- Computers (e.g., computer towers)

- Fax machines

- Peripherals including keyboards, external hard drives, printers, and mice

- An all-in-one printer/copier/scanner or a projector can be considered a peripheral provided the item is designed to be used exclusively with a computer

- DVD players (including gaming systems that play DVDs)

- Video cassette recorders

- Digital photo frames

- Digital media players

- MP3 players

- Camcorders/Cameras

- DVR devices

- Portable GPS navigation systems

Introduction

The Indiana e-waste law created an extended producer responsibility (EPR) program, known as Indiana E-Cycle, under which manufacturers of video display devices (VDDs) are required to collect and recycle e-waste from covered entities (households, small businesses, and public schools) in Indiana. The law requires that manufacturers of VDDs that offer their products for sale to Indiana households annually register with and report to IDEM. Each year these manufacturers are required to collect and recycle 60 percent, by weight, of the VDDs they sold to Indiana households during the previous twelve months. They can collect and recycle a broader range of products of any brand, known as CEDs, to fulfill their obligation.

All collectors and recyclers that collect and recycle CEDs, on behalf of a registered manufacturer, must also register with and report to IDEM annually. If collectors and recyclers do not register with the program, CEDs collected and recycled cannot be credited toward a manufacturer's recycling obligation.

The law also contains a disposal prohibition, which, as of January 1, 2011, prohibits covered entities from disposing of CEDs with the trash that is intended for disposal at a landfill or disposal by burning or incineration.

Legislative Requirements

This report fulfills the requirements contained in IC 13-20.5-7-4. IDEM is to submit a report concerning the implementation of the Indiana E-Waste Law to the general assembly, the governor, the Interim Study Committee on Environmental Affairs, and the Indiana Recycling Market Development Board before November 1.

Required content includes:
- A summary of information in the annual reports submitted by manufacturers and recyclers.
- Information regarding the total weight of CEDs recycled.
- The various collection programs used by manufacturers to collect CEDs.
- Information regarding CEDs that are being collected by persons other than registered manufacturers, collectors, and recyclers.
- Information about CEDs, if any, being disposed of in landfills in Indiana.
- A description of enforcement actions under the Indiana E-Waste Law.

> **Recycler:** an individual or public or private entity that accepts CEDs from covered entities and collectors for the purpose of recycling.
>
> **Household:** occupants of a dwelling located in Indiana who use a VDD at the dwelling primarily for personal use or home office use.
>
> **Small Business:** a business that satisfies the following:
> - The business is independently owned and operated.
> - The principal office of the business in Indiana.
> - The business satisfies either of the following:
> - Has less than 100 employees and average annual gross receipts under $10,000,000.
>
> **Public School:** K-12 public school or charter school.

> **Previous Program Results**
>
> Find earlier Indiana E-Cycle annual reports and program results at:
> https://www.in.gov/idem/recycle/2428.h

Program Participation

Registration is required for manufacturers that offer VDDs (televisions, computer monitors, laptops, netbooks, notebooks, tablet computers, and e-readers) for sale to Indiana households. While the number of registered manufacturers and brands remained relatively unchanged from PY9, the

companies that are registered has varied as new manufacturers enter the market, other manufacturers exit the market, and mergers and acquisitions occur. As shown in **Figure 1**, a total of 69 manufacturers registered with the Indiana E-Cycle Program for PY11. These 69 manufacturers accounted for 104 different brands of devices that are being sold to Indiana households.

IDEM routinely conducts research to determine which companies selling VDDs to Indiana households have failed to register with the program. These manufacturers are contacted and informed of the registration requirement and are provided with instructions on how to register with the program.

Manufacturers that have sold more than 100 units of VDDs to Indiana households during the previous year are required to pay a $5,000 registration fee for the first program year they register and a $2,500 registration fee each year thereafter for which their sales were above the 100-unit threshold.

Figure 1: Registered Manufacturers and Brands
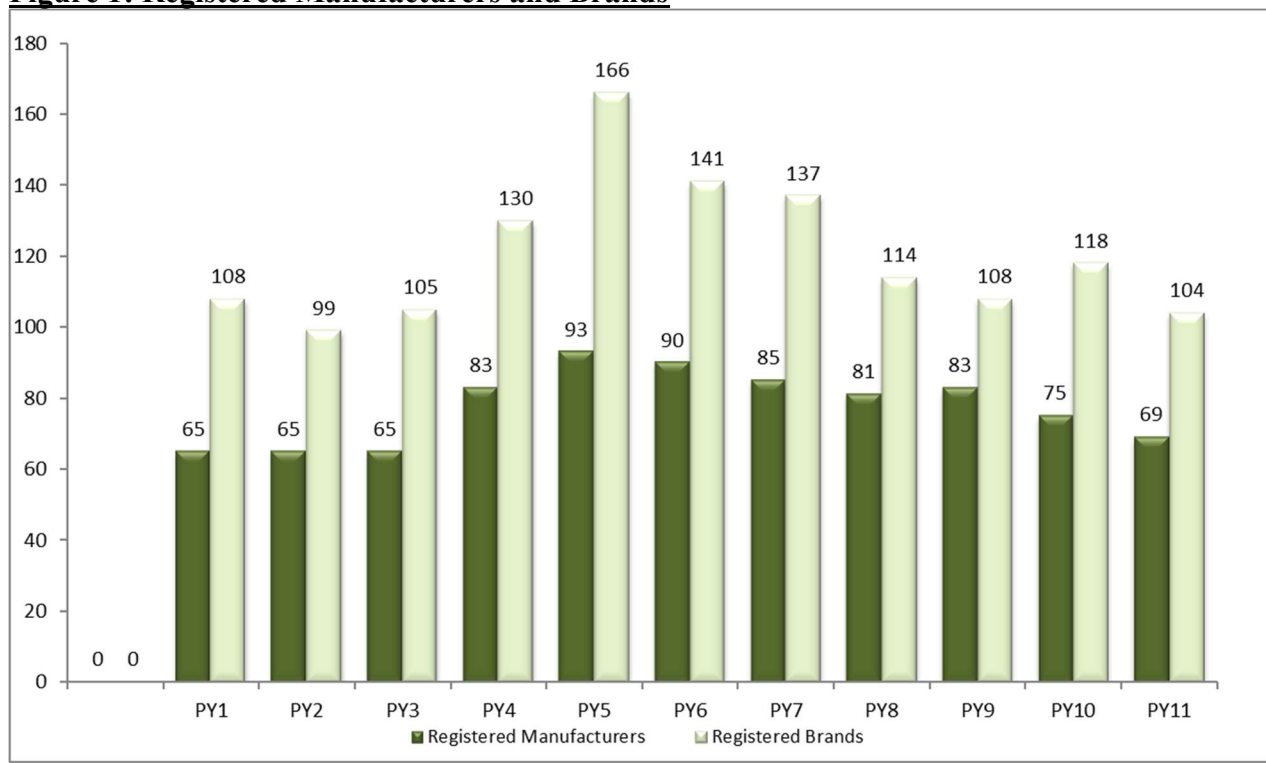

Program Successes

Since 2009, Indiana households, schools, and small businesses have recycled over 350 million pounds of electronics. More electronic waste collection options are now available to citizens as well, which allows for better access to recycling unwanted electronic items. In the previous year, collection sites were located at 77 of Indiana's 92 counties. As shown in **Figure 4** on page seven, electronic waste collection sites can now be found at 86 of Indiana's 92 counties.

Majority of manufacturers, recyclers, and collectors continue to comply with Indiana's E-Waste Law, and the program has taken actions to ensure a level playing field for all program participants. During the previous year, many small manufacturers registered with the Indiana E-Cycle for the first time, thanks in part to compliance efforts by the department and electronics retailers. The program has also stepped-up efforts through educational outreach and compliance measures to ensure collectors and recyclers are properly handling electronics.

Registered Manufacturers and Brands

All recyclers recycling CEDs from covered entities in Indiana must be registered with the Indiana E-Cycle Program. The term recycler includes any recycling program (in Indiana or elsewhere) in which CEDs are recycled from covered entities (households, small businesses, and public schools). For each program year, most registered recyclers have also been registered collectors. For PY11, of the 23 registered recyclers, 15 of them are in Indiana. The decrease in the number of registered recycler facilities in years past is likely due to better quality assurance and understanding of what facilities need to register with the program. Through outreach and research, it had become apparent that previously registered recycler facilities were inappropriately registering with the program.

Figure 2: Registered Recyclers and Registered Recycling Facilities in Indiana
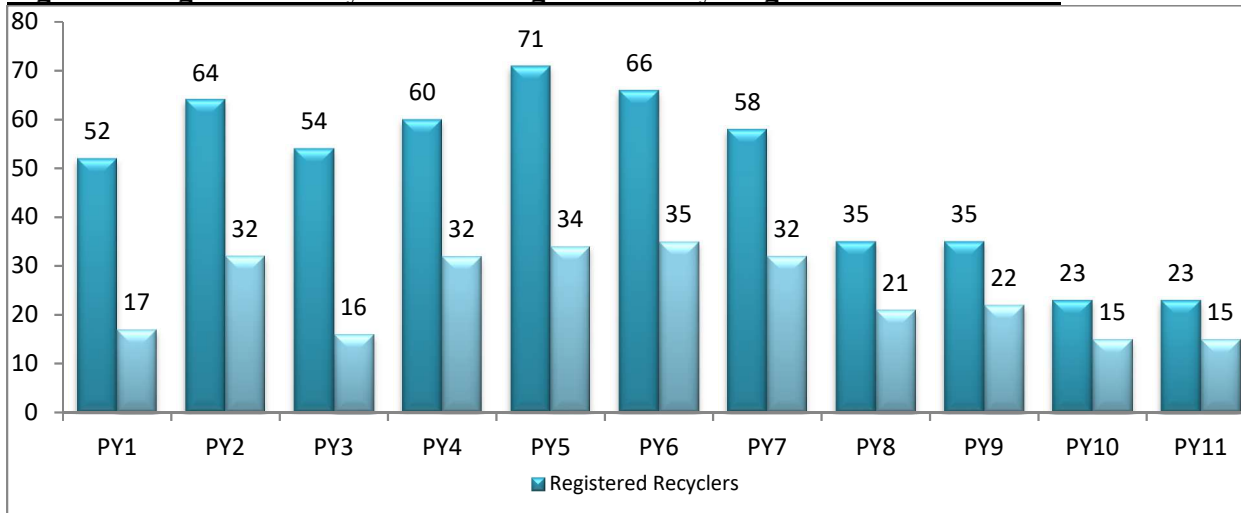
All collectors collecting CEDs from Indiana-covered entities must be registered with the Indiana E-Cycle Program. Collectors can include local units of government, solid waste management districts, curbside collection programs, manufacturer mail-back programs, and any other collection program (in Indiana or elsewhere) in which CEDs are collected from covered entities (households, small businesses, and public schools in Indiana). As shown in **Figure 3**, the number of registered collectors for PY11 increased from PY10. Collectors are not allowed to perform any dismantling of CEDs. Dismantling of CEDs requires registration as a recycler. Most registered recyclers are also registered as collectors; however, most collectors are not also recyclers.

Collector: a public or private entity that:
- receives CEDs from covered entities and arranges for the delivery of the CEDs to a recycler; or,
- collects CEDs directly from covered entities, including curbside collection.
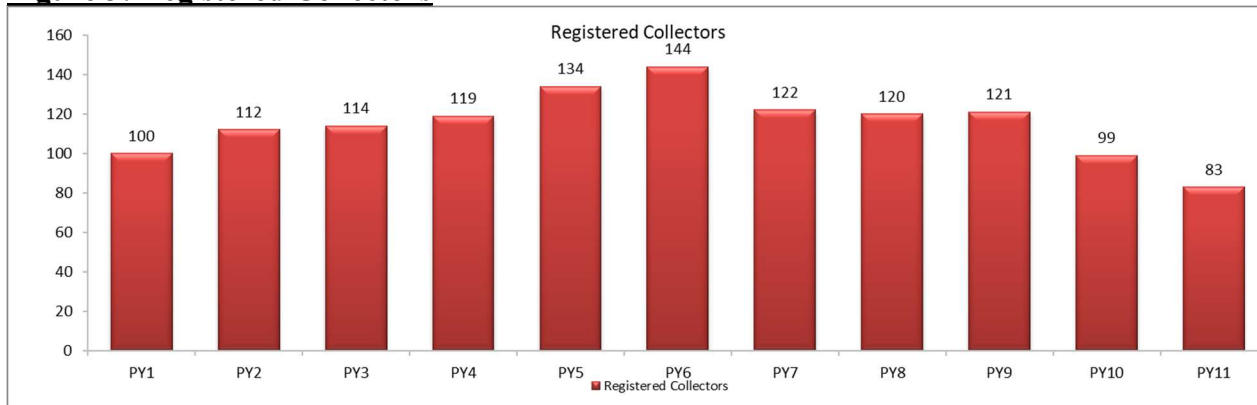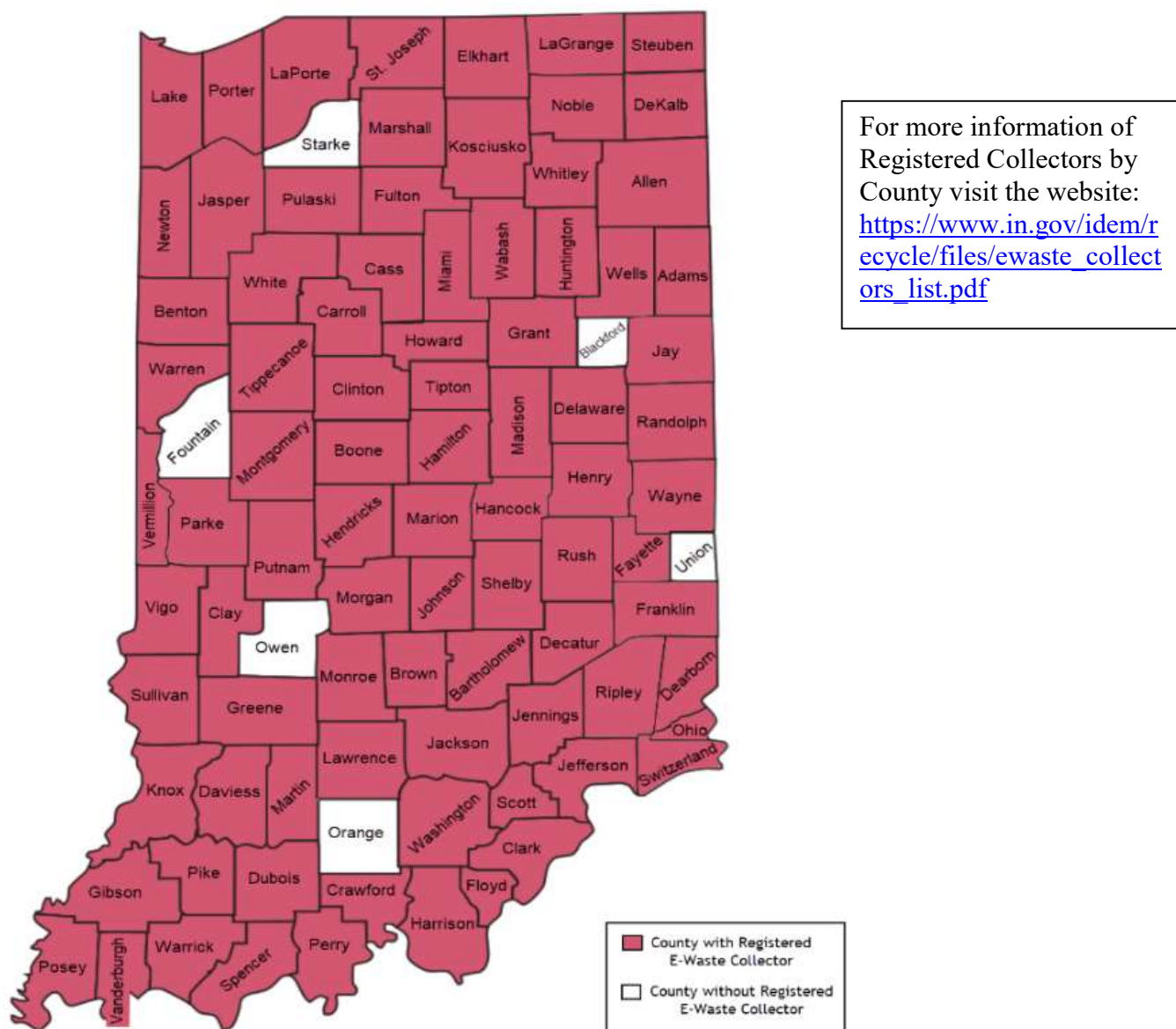
Figure 3: Registered Collectors

Figure 4 below displays counties with and without an e-waste collection site. Registered collectors and their collection sites include local governments, electronics retailers, other for-profit businesses, and non-profits. In PY11, there were registered e-waste collection sites in 86 of Indiana's 92 counties. These collection sites include all registered permanent collection locations in the state and some, but not most, temporary, and special collection events.

Indiana residents have had the benefit of having many collectors scattered throughout the state. This has allowed for more options for residents when it comes to recycling their unwanted electronic devices. One example that demonstrates this above- mentioned benefit is the Lake County Solid Waste Management District. This district offers citizens residing in the county eight different electronic waste collection sites that are scattered throughout the county. Many of Indiana's solid waste management districts offer electronics recycling programs for residents in their area and are knowledgeable about local electronics recycling options.,

Aside from permanent electronic collection sites, citizens have also had the benefit of being able to participate in one-day electronic collection events, which are often hosted throughout the state. These events are often hosted by county Solid Waste Management Districts.

The program will continue to attempt to focus on assisting counties with the collection of e-waste. A special emphasis will be placed on the six counties that do not have an e-waste collection site.

Figure 4: Indiana Counties with Registered Collection Sites for PY11

For more information of Registered Collectors by County visit the website: https://www.in.gov/idem/recycle/files/ewaste_collectors_list.pdf

Manufacturer and Recycler Annual Report Summaries (Including Total Weight of CEDs Recycled)

Manufacturers of VDDs (televisions, computer monitors, laptops, netbooks, notebooks, tablet computers, and e-readers that contain a cathode ray tube or flat panel screen with a screen size that is greater than four inches measured diagonally) are responsible for collecting and recycling or arranging for the collection and recycling of 60 percent, by weight, of the VDDs they manufacture and sell to Indiana households. Manufacturers can count the recycling of a variety of CEDs from covered entities toward their recycling obligation.

A 50 percent incentive is earned for collecting CEDs from non-metropolitan counties in the state and a 10 percent incentive is earned for recycling CEDs at a registered facility in Indiana. These incentives can be combined; for example, each pound of CED collected from a non-metropolitan county and recycled at an in-state recycling facility is counted as 1.6 pounds recycled. Manufacturers can only utilize collectors and

recyclers that are registered with the Indiana E-Cycle Program to fulfill their recycling obligation. This includes collectors and recyclers located outside of Indiana as well as manufacturer mail-back programs. Figures 5, 6, and 7 show how many pounds of CEDs were recycled by manufacturers registered in PY11 and the previous program years in which annual reports were submitted.

Figure 5: Covered Electronic Devices Recycled by Registered Manufacturers (lbs)

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10	PY11
Total Recycling Goal	22,952,810	22,042,343	21,934,388	19,159,446	16,799,361	16,620,779	15,553,389	15,627,995	15,793,684	16,838,882	16,933,833
Total Actual Pounds Recycled	21,703,033	24,508,551	20,439,183	20,475,727	19,314,398	19,113,809	15,818,470	14,764,900	14,621,110	14,456,473	16,424,012
Total Pounds Recycled Including Incentives	23,112,133	26,690,731	22,821,544	22,777,243	21,840,809	20,849,065	18,246,608	16,601,311	16,530,768	16,730,631	18,716,046

Figure 6: Covered Electronic Devices Recycled by Registered Manufacturers: Metro and Non- Metro (lbs)

	1	2	3	4	5	6	7	8	9	10	11
Actual Metro lbs Recycled	20,108,187	21,774,474	17,853,995	18,358,599	17,476,431	17,044,736	12,441,647	12,342,039	12,167,316	11,968,926	13,587,350
Actual Non-Metro lbs Recycled	1,594,846	2,734,077	2,585,188	2,117,128	1,854,791	2,069,073	3,376,823	2,422,861	2,453,794	2,487,547	2,836,662
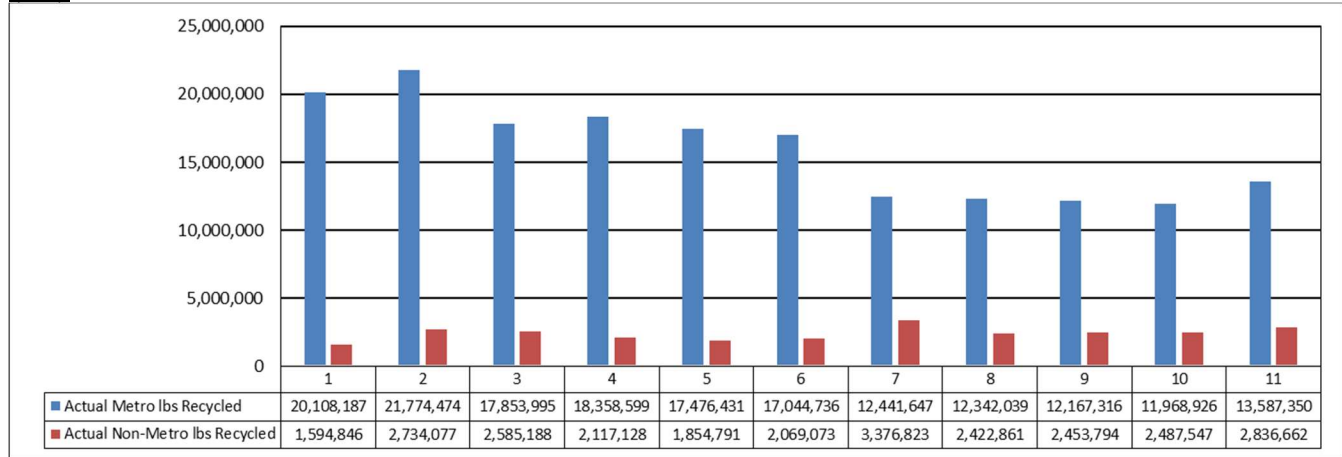
Figure 7: Covered Electronic Devices Recycled by Registered Manufacturers: In Indiana vs. Elsewhere (lbs)

	1	2	3	4	5	6	7	8	9	10	11
lbs Recycled in IN	6,116,767	8,151,414	10,897,666	9,154,172	7,901,493	7,143,803	7,397,269	6,249,801	6,827,613	10,303,840	11,021,678
lbs Recycled Elsewhere	15,586,266	16,357,137	9,541,313	11,321,555	11,412,905	11,970,006	8,421,201	8,515,099	7,793,497	4,152,633	7,694,369
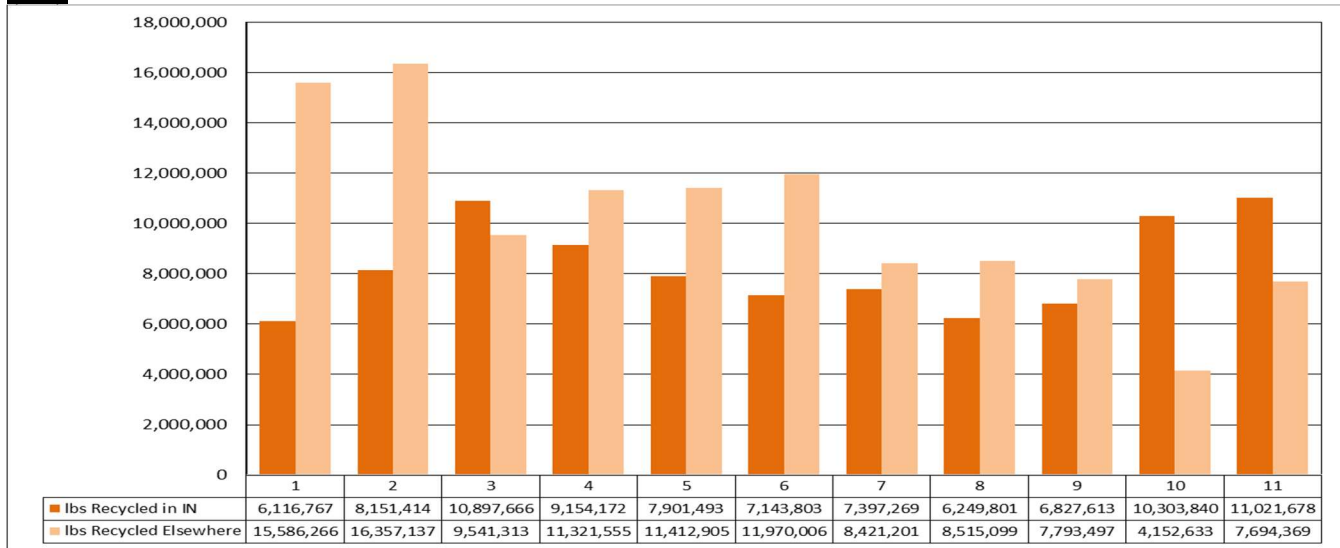
Figures 8, 9, and 10 show how many pounds of CEDs were recycled by recyclers registered in PY11 and the previous program years in which annual reports were submitted. There continues to be more e-waste being recycled than what registered manufacturers are responsible for recycling. For PY11, there was decrease in pounds recycled by registered recyclers.

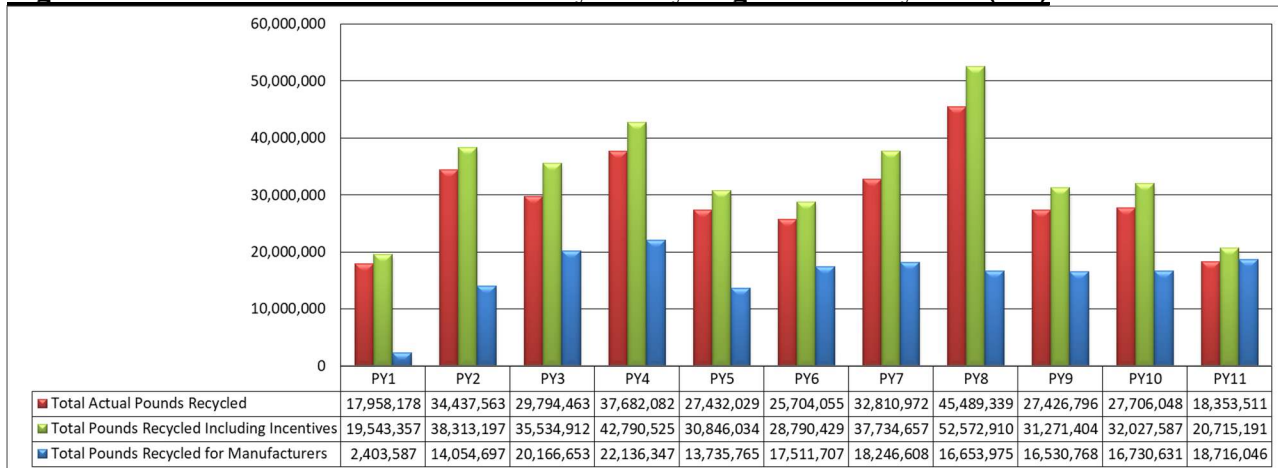**Figure 8: Covered Electronic Devices Recycled by Registered Recyclers (lbs)**

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10	PY11
Total Actual Pounds Recycled	17,958,178	34,437,563	29,794,463	37,682,082	27,432,029	25,704,055	32,810,972	45,489,339	27,426,796	27,706,048	18,353,511
Total Pounds Recycled Including Incentives	19,543,357	38,313,197	35,534,912	42,790,525	30,846,034	28,790,429	37,734,657	52,572,910	31,271,404	32,027,587	20,715,191
Total Pounds Recycled for Manufacturers	2,403,587	14,054,697	20,166,653	22,136,347	13,735,765	17,511,707	18,246,608	16,653,975	16,530,768	16,730,631	18,716,046

Figure 9: Covered Electronic Devices Recycled by Registered Recyclers: Metro and Non- Metro (lbs)

	1	2	3	4	5	6	7	8	9	10	11
Actual Metro lbs Recycled	16,398,251	29,464,981	22,280,873	31,722,435	23,982,575	22,876,155	27,469,452	38,498,965	23,187,774	23,635,022	15,857,566
Actual Non-Metro lbs Recycled	1,559,927	4,972,582	7,513,590	5,959,647	3,449,454	2,827,900	5,341,520	6,990,374	4,239,022	4,071,026	2,495,945
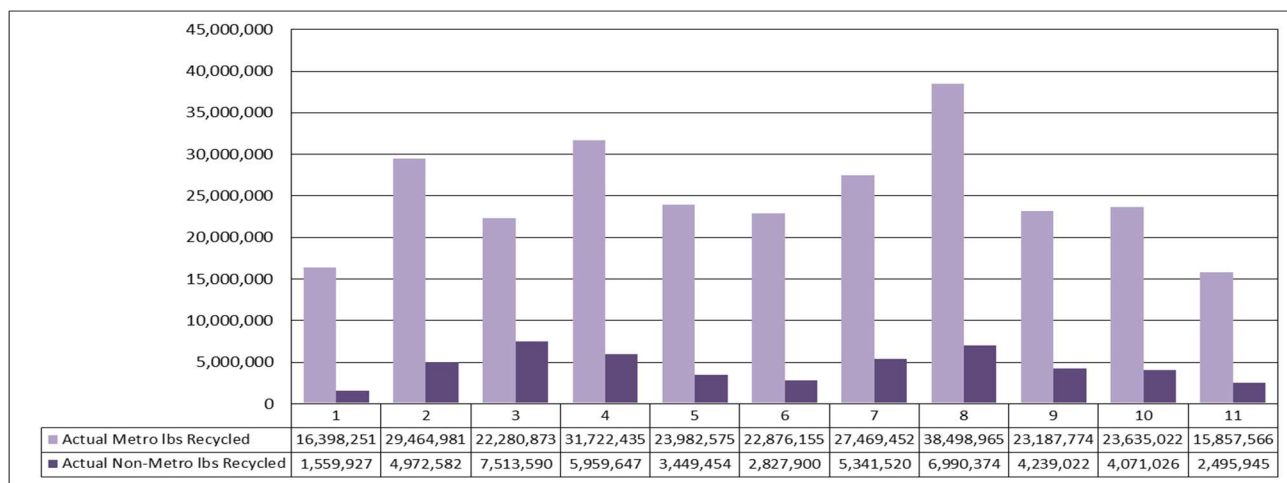
Figure 10: Covered Electronic Devices Recycled by Registered Recyclers: In Indiana vs. Elsewhere (lbs)

	1	2	3	4	5	6	7	8	9	10	11
lbs recycled in IN	8,052,156	13,893,428	17,522,591	21,286,199	16,892,771	14,190,063	22,529,250	35,883,837	17,250,971	22,860,261	12,307,480
lbs recycled elsewhere	9,906,022	20,544,135	12,271,872	16,395,883	10,539,258	11,513,992	10,281,722	9,605,502	10,175,825	4,845,787	6,046,031
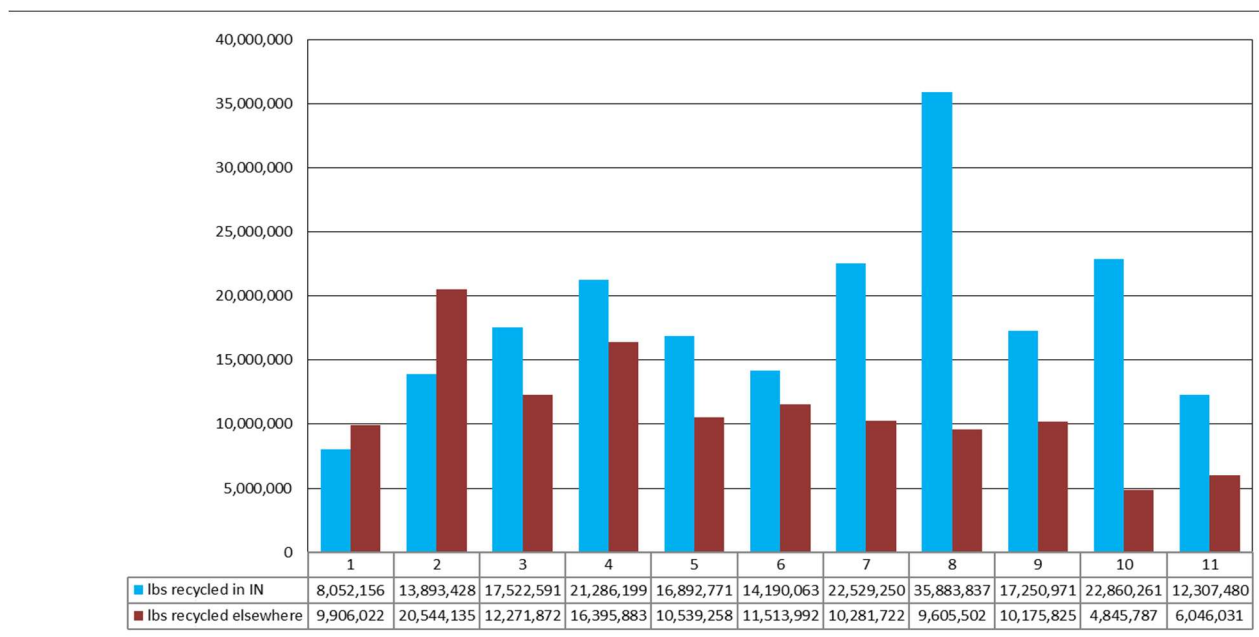
Based on the reporting trends, the demand for CED recycling in Indiana will continue to exceed the number of CEDs that manufacturers are responsible for recycling given that new VDDs are becoming lighter than older CEDs. In addition, the list of items that meet the definition of CED is more extensive than the list of items that are defined as VDDs. Lastly, manufacturers' recycling obligations are based solely on their sales of VDDs to households, while CEDs collected to meet their recycling obligations can come from households, small businesses, and public schools.

The results of Indiana E-Cycle in terms of pounds of e-waste recycled by manufacturer per resident are as follows:

	Lbs/Capita (Actual Pounds)	Lbs/Capita (Including Incentives)
PY1	3.35	3.56
PY2	3.78	4.12
PY3	3.13	3.49
PY4	3.12	3.47
PY5	2.93	3.31
PY6	2.89	3.15
PY7	2.38	2.75
PY8	2.21	2.49
PY9	2.18	2.47
PY10	2.15	2.49
PY11	2.43	2.37

If a manufacturer exceeds their recycling obligation, 25 percent of the excess pounds are converted to recycling credits that can be used by the manufacturer in any of the three immediately following program years or sold to another manufacturer. Manufacturer credit details are as follows:

	Credits Earned	Credits Bought/ Sold	Credits Used	Credits Expired	Credits Retained	Manufacturers Holding Credits
PY1	1,074,733	0	n/a	n/a	1,074,733	18
PY2	1,623,705	0	19,253	n/a	2,653,837	23
PY3	555,630	0	116,758	n/a	3,090,762	26

PY4	967,292	87,256	104,592	809,875	3,039,188	37
PY5	1,174,168	246,957	808,867	586,136	2,579,219	29
PY6	1,057,072	0	128,070	465,811	3,024,254	25
PY7	673,305	179,919	65,531	698,386	3,170,225	24
PY8	336,481	0	307,559	1,000,579	2,196,005	30
PY9	217,427	0	114,386	1,084,328	1,214,661	29
PY10	126,524	432,805	588,500	254,953	497,465	27
PY11	452,504	0	32,528	348,734	883,096	39

Various Collection Programs Used by Manufacturers to Collect CEDs
Manufacturers registered with the Indiana E-Cycle Program utilize three types of collection programs to fulfill their recycling obligations:

1. Permanent collection sites
2. Temporary/special collection events
3. Manufacturer take-back programs

Multistate Collaboration
The Indiana E-Cycle Law permits IDEM to participate in and join regional multistate organizations or compacts to assist in implementing the article. IDEM participates in regular conference calls with other Midwestern states, which are coordinated by the United States Environmental Protection Agency Region 5 office. The majority of the states that participate in the calls also have e-waste laws, most notably, Minnesota and Wisconsin, which have laws comparable to Indiana's. The information shared and the coordination achieved on these calls is valuable in assisting with the implementation of Indiana's law.

Description of Enforcement Actions Under the Indiana E-Waste Law

Manufacturers that do not meet their recycling obligation are subject to a shortfall fee, or a variable recycling fee (VRF). The VRF is calculated as follows:

- Forty cents per pound of a shortfall for manufacturers that recycle less than 50 percent of their goal.
- Thirty cents per pound of a shortfall for manufacturers that recycle at least 50 percent, but less than 90 percent, of their goal.
- Twenty cents per pound of a shortfall for manufacturers that recycle at least 90 percent of their goal.

Two manufacturers for PY10 were required to pay a shortfall fee for a total amount of $1,153.20, and in PY11 one manufacturer has a shortfall fee in the amount of $26.00.

Manufacturers that were exempt from the registration fee for PY11, because they sold less than 100 units of VDDs to households during PY10, are exempt from the VRF.

There have not been any enforcement actions under the Indiana E-Waste Law.

Compliance & Reporting

Throughout the state of Indiana, there are numerous brands of VDDs being sold through various retailer options. As was mentioned above, this past year there were 104 various brands of VDDs that registered with the program. To better educate and inform retailers of manufacturer compliance requirements with Indiana's E-Cycle Law, the department conducts "brand checks" on retailers that might be selling unregistered VDDs to Indiana households.

IDEM has developed a retailer toolkit to assist retailers in complying with the Indiana E-Waste Law. This retailer toolkit can be found by visiting the following website: https://www.in.gov/idem/recycle/files/e-cycle_retailer_toolkit.pdf. Retailers are responsible for knowing which brands of VVDs are registered with the Indiana E-Cycle Program. Retailers that sell new VDDs to households must provide customers information that describes where and how VDDs may be recycled and that advises of opportunities and locations for the convenient collection of VDDs for recycling. Retailers can comply with this regulation by providing IDEM's contact information or website address to customers.

The overall purpose of these "brand checks" is to educate and inform retailers selling VDDs that Indiana's E-Cycle Law requires they must sell only registered brands and inform their customers of where and how they can recycle unwanted electronics. The department has had success in having brands register with the program after contacting retailers.

Collectors and recyclers in Indiana often collect various types of e-waste that are not considered CEDs. This past year 10 collectors/recyclers received site visits from program staff to educate them on CEDs, proper material storage, labeling, and record keeping. The purpose of these site visits is to evaluate each individual collector/recycler's electronic waste stream and educate them on their requirements as registered participants. Collectors/recyclers also received compliance guidance for Indiana's E-Waste Management Rules (329 IAC 16) administered by IDEM's Office of Land Quality (OLQ).

Program Outreach

Program outreach was made a priority this past program year to better educate and provide educational information to citizens and Indiana E-Cycle participants on the program. These efforts included visiting and providing educational materials to solid waste management districts, local recyclers, collectors, and at various events hosted across the state of Indiana.

IDEM staff providing outreach at State Fair-2019

The department participated in several notable outreach events including the Indiana State Fair, the Indiana Recycling Coalition's Annual Conference, Earth Day Festivities, AIM Annual Ideas Summit, and other community events. The Indiana E-Cycle Program strives to keep the public aware of how they can properly recycle their unwanted electronic devices, and often utilizes various platforms such as social media to keep the public aware of electronic waste collection events occurring across the state of Indiana. One new outreach approach that was taken on was connecting with the public using video, and more specifically with the department's YouTube channel. The following link is an example of this effort: https://www.youtube.com/watch?v=yE1VND243iY. These outreach efforts as described here are a cumulative ongoing effort.

The department also houses outreach material on their website that local governments, retailers, collectors, recyclers, manufacturers, and others can use to educate their residents and customers about Indiana E-Cycle and Indiana's electronics recycling law. All materials on this page are available for free use and can be found by visiting: https://www.in.gov/idem/recycle/2440.htm.

The Indiana E-Cycle Program held its first ever e-waste collection event on Robert Orr Plaza at the Indiana Government Center. The target audience for this event was state employees and citizens of Indianapolis. The event was held on two dates in November and diverted over 14,000 pounds from the landfill. The department plans on making this an annual event to offer state employees and citizens an avenue to safely dispose of their unwanted electronic devices.

Discussion of Results

Indiana's E-Cycle Program is comprised of collectors, recyclers, and manufacturers. PY11 marked the fifth year that an online reporting system was available for stakeholders to complete their registration and annual report. Previously, stakeholders completed their registration and annual report by completing a paper form. Each registered stakeholder in the program completed their registration and annual report through this online format. Below is a brief discussion of results for each stakeholder group within the Indiana E-Cycle Program.

Collectors:

For PY11, there were 83 collectors registered with the program. This figure is slightly lower than the past several years, and this decrease is assumed to be the result of better-quality assurance and understanding of what facilities need to register with the program. One goal implemented by IDEM was to provide education to facilities to ensure that registered participants were required to

Find out more information on collectors by visiting the collector's website at: https://www.in.gov/idem/recycle/2381.htm

register with the program. Completing this goal, it became apparent that some collection facilities were inappropriately registering with the program, as they were not, nor never had, collected CEDs.

For PY11, collectors reported collecting 18,361,381 pounds of CEDs for the program year. Of this total, 12,846,870 came from metropolitan counties, while 5,514,511 came from non-metropolitan counties. Of the total CEDs collected for the program year, 7,234,212 came from Indiana Solid Waste Management Districts (SWMDs). Indiana SWMDs have proven to be a valuable resource for collecting these CEDs, especially in non-metropolitan areas in Indiana. For the program year, SWMDs jointly collected 4,465,890 out of 5,514,511 pounds of CEDs from non-metropolitan areas, while also collecting 2,768,322 from metropolitan areas in Indiana.

Issues involving the collection of e-waste continue to have effects on both public and private collectors. Over the course of the last several years, there has been increasing concern from collectors over the collection costs of cathode ray tube devices (e.g., televisions & computer monitors). To lessen these operating costs, IDEM has begun conducting outreach and research on potential solutions to help mitigate this issue.

Recyclers:

For PY11, 23 recyclers registered with the program with 15 of them being in Indiana. Both figures are slightly lower than the past several years, and this decrease can be explained by the implementation of better-quality assurance and understanding of what facilities need to register with the program.

> Find out more information on recyclers by visiting the recycler's website at:
> https://www.in.gov/idem/recycle/2382.htm

Recyclers reported recycling 18,353,511 pounds of CEDs for the program year. Of this total, 15,857,566 came from metropolitan counties, while 2,495,945 came from non-metropolitan areas. It should be mentioned that the difference between the total amount collected by collectors and the total amount recycled by recyclers largely pertains to a material that was sent out of the state. Another factor contributing to this collection and recycling difference is that not all CEDs that were collected for the program year were processed by the recycler before the report being due.

As was addressed above, a 50 percent incentive can be earned for collecting CEDs from non-metropolitan counties in the state, and a 10 percent incentive is earned for recycling CEDs at a registered facility in Indiana. For PY11, recyclers earned 2,361,680 in total incentives, which brings the total amount of CEDs recycled by recyclers for the program year to 20,715,191 pounds. The decrease in the number of CEDs that were reported being recycled for the program year compared to last year might be attributed to the COVID pandemic as consumers did not go out to recycle unwanted electronic items.

Recyclers collectively recycled 16,424,012 pounds of CEDs on the manufacturer's behalf before the inclusion of incentives. After the inclusion of incentives, this figure rose to 18,716,046 pounds of CEDs.

Manufacturers:

For PY11, 82 manufacturers registered with the program. For the program year, manufacturers collectively had a recycling obligation of 16,838,822 pounds. Manufacturers used 32,528 credits this year, bringing the total pounds recycled and credited towards their recycling obligation to 18,716,046 pounds. Manufacturers continued to collectively meet their recycling obligation.

> Find out more information on manufacturers by visiting the manufacture's website at:
> https://www.in.gov/idem/recycle/2379.htm

The amount of e-waste that registered manufacturers are responsible for recycling each year is determined based on the weight of products they sold during the previous year. With the continued light-weighting of products (products getting smaller and/or weighing less) and changes in the types of products that are being purchased (e.g., tablets instead of laptops), the total amount of CEDs that registered manufacturers are responsible for recycling has decreased from 22.9 million pounds in Program Year 1 to 16.9 million pounds in Program Year 11 despite having six less manufacturers registered in PY11 than in PY10, but four more than PY1. The demand for e-waste collection and recycling in the state, however, has not decreased, meaning that the cost of collection is increasingly burdensome to e-waste collectors including solid waste management districts.

Figure 11 below highlights pertinent credit information over the most recent five program years. Traditionally, credits have played a minimal role in helping to achieve the manufacturer's recycling obligations for the program. This program year, however, IDEM tried to make manufacturers more aware of how credits worked within the program, while also explicitly informing each manufacturer of their credit totals. A total of 32,528 credits were used for the program year, while 348,734 credits expired. Ten manufacturers used credits towards their recycling obligation for PY11. Thirty-nine manufacturers retained credits that can be used in upcoming years within the program.

As displayed below, there had been a steady increase in the number of credits expiring each year, coupled with a steady decrease in the number of credits being earned each program year. The department has been placing a special emphasis on making manufacturers aware of these credits and how they can be utilized within the program.

Overall, credits are not as resourceful as was originally intended. One potential solution to making credits bear more weight within the program is to decrease the incentive manufacturers receive for recycling material from non-metropolitan counties in Indiana. This would reduce the number of overall credits, which in return would make their value increase while lessening the number of credits that go unused and expire on an annual basis.

Figure 11: Credit Information
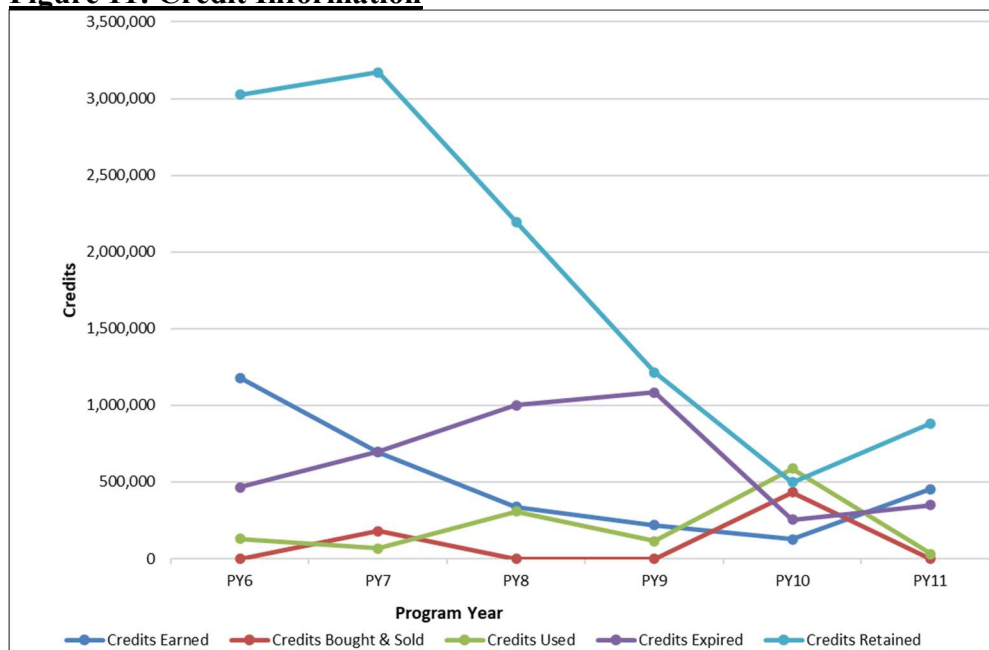
Conclusion

Indiana has had the benefit of having many collectors register with the program, which allows Indiana residents the ability to have numerous options regarding recycling their electronic devices. The program has become more efficient and effective since its inception, and this can be observed through action items such as the program's online reporting platform along with ensuring only required facilities participate in the program.

IDEM has identified potential areas for improvement within the E-Cycle Program. One potential revision and improvement with the program involves lessening or ending the program's use of the 50 percent incentive given for collecting and recycling CEDs from non-metropolitan counties. Many states require manufacturers to arrange for the collection and recycling of 100 percent, by weight, of the electronic devices they sell within their respective states when recycling obligations are based on weight sold. Indiana, which holds manufacturers responsible for the collection and recycling of 60 percent of the VDDs they manufacture and sell to Indiana households, is on the lower end of the spectrum when compared to other states.

IDEM is determined to provide accurate data regarding the collection and recycling of electronics. Recent modifications and a more streamlined approach, coupled with an online reporting format, have assisted IDEM with achieving accurate data. The reporting of actual e-waste data by registered stakeholders provides credibility in achieving recycling goals and helps to determine long-term infrastructure needs for the proper management of e-waste in the state of Indiana.

Pollution Prevention Report (IC 13-27-6)

The Pollution Prevention and Compliance Assistance Section of the Office of Program Support in the Indiana Department of Environmental Management (IDEM) is submitting this report to the Indiana General Assembly as required by Indiana Code 13-27-6. This report describes Indiana's Pollution Prevention (P2) activities and the measurable reduction results reported in 2021 from 2020 voluntary program member efforts. The various P2 programs are summarized in the following categories: voluntary reduction programs, technical assistance, partnerships, reports, awards, grants, and education and training programs.

It is important to note that IDEM is continually seeking the most effective method for measuring the positive impact of pollution prevention activities. Currently IDEM uses annual reports from voluntary recognition program members, Governor's award winners and final reports from grantees to measure pollution prevention progress and results. These tools do not capture all achievements resulting from pollution prevention efforts, but they are determined to be the best available method at this time.

Voluntary Recognition Programs

To encourage Indiana entities to pursue better environmental management practices, the P2 program offers recognition for participating in the Indiana Environmental Stewardship Program and Indiana CLEAN Community Challenge.

The Indiana Environmental Stewardship Program (ESP) is a performance-based recognition program for Indiana businesses. Each participating business implements an environmental management system, maintains a positive compliance record, and commits to at least one environmental improvement initiative each year. Participants are provided with regulatory benefits, reduced record keeping, advanced notice of routine inspections, and expedited permitting. In 2020, the fifty-three (53) member facilities collectively realized Indiana environmental achievements in the following areas:

Environmental Achievements	Comparison
Electricity usage reductions by 29,679,798 kilowatt hours	Saved enough electricity to power 2,705 Indiana homes for one year. [1]
Natural gas usage reductions of 408,539 MMBtu	Reduced the amount of natural gas and propane that would be used in 4,332 homes in one year. [2]
Diesel usage reductions of 49,449 gallons	Reduced the amount of diesel fuel that would fill 1,978 Class B Recreational Vehicles. [3]
Non-hazardous material use reductions by 2,220,730 pounds	Pounds of non-hazardous material usage reduced is equivalent to 185 adult African elephants! [4]
Hazardous material use reductions by 24,644 pounds	Pounds of hazardous material use reduced is equivalent to 2 adult African elephants. [4]
Reduction in hazardous waste by 8,437 pounds.	Reduced hazardous waste by a weight equivalent to about 3.5 subcompact cars. [5]
Water usage reductions by 61,958,747 gallons.	Reduced the amount of water usage enough to fill nearly 94 Olympic sized swimming pools. [6]
Increased recycling by 117,042 pounds	Increased recycling by a weight equivalent to about 23 full-sized passenger trucks. [7]
Increased land and habitat conserved by 4 acres.	Increased the amount of land conserved that would have yielded an average of 701 bushels of corn in Indiana. [8]
Reduction in waste sludge of 581,015 gallons.	Gallons of reclaimed hazardous waste is equivalent to 37,485 full size beer kegs. [9]
Chemical use reductions by 33,247 gallons.	Gallons of chemical use reduced is equivalent to 791 full bathtubs. [10]
Air emissions reductions by 2,931 pounds of Air Toxics, and 85,080 pounds of Volatile Organic Compounds (VOCs).	Decreased air pollution by the weight of 4,401 boxes of copier paper. [11]
Air emissions reductions in Greenhouse Gases (MCO2E) by 37,769.	Greenhouse gases of 8,157 passenger vehicles driven for one year. [12]

1. Electricity: average of 10,972 kWh per home annually in 2018 according to U.S. Energy Information Administration (U.S. EIA)
2. Natural gas: The average Midwest household consumes 94.3 million British thermal units (Btu) a year, according to U.S. Energy Information Administration (U.S. EIA) 2015 survey data. There are 91,452 Btus in 1 gallon of propane.
3. Average Class B Recreational Vehicle or motorhome tank holds 25 gallons.
4. According to the World Wildlife Fund, an average adult African elephant weighs about 12,000 pounds.
5. On average, a subcompact car weighs 2,433 pounds.
6. Olympic Swimming Pool can hold 660,000 gallons of water.

7. Average pick-up truck weighs 5,000 pounds.
8. Indiana yields on average 181 bushels of corn per acre.
9. One full size beer keg (1/2 barrel) on average holds 15.5 gallons.
10. When filled to capacity (just below the overflow), a standard bathtub holds 42 gallons, according to a 2014 University of Sacramento study.
11. An average box of 8.5 inch x 11 inch copier paper weighs 20 pounds.
12. According to U.S. EPA Greenhouse Gases equivalencies calculator, a passenger vehicle emits an average of 4.63 metric tons CO2E per vehicle per year.

Similar to ESP, the Comprehensive Local Environmental Action Network (CLEAN) Community Challenge is a technical assistance and recognition program for units of local government. CLEAN is currently undergoing a restructuring to make it more accessible to Hoosier Communities. Summaries of the original and proposed new programs are highlighted below.

Original Program:
The Indiana Comprehensive Local Environmental Action Network (CLEAN) was a free and voluntary program aimed at rewarding communities that successfully manage environmental and health impacts associated with governmental operations. Operating out of the Indiana Department of Environmental Management, CLEAN took the form of a challenge that required applicants to identify environmental impacts caused by municipality operations and set four environmental initiatives to address over a four-year period. Since the program was launched in 2006, communities have struggled to maintain membership due to turn over within municipal departments, the restrictive format of the program, and lack of flexibility in project selection.

Restructured Program:
During 2020, the Clean Communities Challenge underwent a complete redesign of the program. After the relaunch, it will be a certification program focused on a holistic view of sustainability. The communities will earn points for completing projects and the number of projects completed will determine their ranking (Bronze, Silver, and Gold). Program managers have developed many elements of the program such as the new structure, available projects for communities and resources that will assist the communities in completing their projects. A pilot with six communities was launched in June 2021 to demonstrate the components of the new structure and elements. IDEM has partnered with IU Bloomington Environmental Resilience Institute to get externs for each of the participating pilot communities. The current pilot communities are Beech Grove, Nashville/Brown County, Fishers, Richmond, Merrillville, and Zionsville. A workgroup that came together initially to develop the program has now been converted into an informal advisory committee for this program with members from Accelerate Indiana Municipalities, Indiana University's Environmental Resilience Institute, Earth Charter Indiana, U.S. Environmental Protection Agency, a Clean participating community, Office of Community and Rural Affairs, Indiana Department of Environmental Management and Indiana Office of Energy Development.

Partnerships

The Partners for Pollution Prevention, in cooperation with IDEM, held two meetings during 2020 for Indiana entities to share pollution prevention strategies. One of these meetings was the 23rd Annual Pollution Prevention Conference and Trade Show. The meeting agenda centered on the theme "Small Changes=Big Impacts" and allowed speakers to share about small pollution prevention steps that result in big environmental impact reductions. Due to the pandemic, this conference was held virtually for the first time with great success

In addition to these ongoing educational opportunities, the Partners' members annually report on the results of their pollution prevention initiatives. The annual reporting deadline for 2020 for the Partners was June 1, 2021. Total environmental benefits reported by members for 2020 include:

Air Emissions Reductions	Air Toxics (pounds/year)	8,240
	Greenhouse Gases (MCO2E)	962
	Carbon Monoxide (CO) (pounds/year)	30,000
	Volatile Organic Compounds (VOCs) (pounds/year)	35,113
Solid Waste Reductions (pounds/year)		130,423
Water Usage Reductions (gallons/year)		35,269,977
Chemical Use Reductions (pounds/year)		23,425
Hazardous Material Reductions (gallons/year)		153,765
Hazardous Material Reductions (pounds/year)		684,894
Hazardous Waste Reductions (pounds/year)		374,863
Electricity Usage Reductions (kwh)		38,550,237
Natural Gas Usage Reductions (MMBtu)		295,629
Diesel Use Reductions (gallons)		49,449
Increase in Non-Hazardous Waste Recycling (pounds/year)		7,239,520
Hazardous Waste Recovery/Reused (gallons/year)		35,543

Governor's Awards for Environmental Excellence

The Indiana Governor's Awards for Environmental Excellence provide recognition to manufacturers, businesses, organizations, vendors, educators, and dedicated individuals for their outstanding environmental initiatives. These awards recognize Indiana's leaders and organizations that have implemented outstanding environmental strategies into business operations and decision-making processes. By seeking out and utilizing innovative environmental practices, the award recipients reduce waste, save money, increase productivity, and contribute greatly to Indiana's environmental protection efforts, as well as benefit the health and welfare of Indiana's communities and the state as a whole. These awards are the highest environmental recognition awards in the State of Indiana. The award categories and the 2020 winners are below:

Energy Efficiency/Renewable Resources:
- **Vuteq Indiana, Princeton, Gibson County, for "Energy Reduction Grid Tied Solar Energy System."** Vuteq Indiana implemented a large-scale solar project in 2019. Their 1.5-megawatt direct

current rooftop solar system has more than 4,440 panels distributed over their roof along with 17 mounted inverters. Vuteq also replaced all its 335 mercury halide high bay lights with LN-TR-40 LED lights. The solar powered energy system will provide about 50% of the plant's electrical needs on an annual basis. On sunny days, it could provide up to 75% of the electrical load. Compared to their baseline year in 2015, Vuteq has saved $349,443 in energy costs and reduced electrical consumption by over 3 million kilowatt hours.

Environmental Outreach/Education:

- **Indiana University, Bloomington, Monroe County, for "Education for Environmental Change."** To address gaps in teachers' understanding of environmental science, and to foster a state-wide network of educators focused on building environmental literacy, the Education for Environmental Change team embarked on a project for the further development, research, and implementation of professional development programming for K-12 teachers to effectively teach environmental change science. Education for Environmental Change offers educator support via the Summer Science Institute, a three-day workshop aligned with Indiana science standards, multiple one day in-semester workshops based on various topics aligned with Indiana science standards, and continuous curriculum development and in-classroom support from IU scientists and educators. Since 2017, the program has attracted more than 80 participant educators impacting around 15,000 learners in the Hoosier State.

Five Year Continuous Improvement:

- **Cummins Inc. Engine Plant, Columbus, Bartholomew County, for "Environmental Management System Projects."** At its Columbus Engine Plant, Cummins has implemented five environmentally beneficial projects as part of their environmental management system (EMS). Their EMS projects include: an LED lighting upgrade in 2017, manufacturing controls project from 2017-2019, test cell process improvement projects from 2016-2019, zero waste to landfill initiative from 2017-2018, and community recycles day held annually since 2010. Some of the highlights from Cummins EMS projects include test cell process improvements which resulted in water usage reductions of 3.4 million gallons per year. The LED lighting upgrade resulted in a reduction of electricity usage of 82,247 kilowatt hours per month. As part of their Zero Waste to landfill initiative, Cummins diverted 136,820 pounds of waste per year from the landfill. Their Community Recycling Day, which is open to all Columbus residents, has diverted another 740,000 pounds of material from the landfill from 2015-2019.

Greening the Government:

- **City of Richmond Parks & Recreation Department, Richmond, Wayne County, for "Richmond Greenhouse Restoration Initiative."** The Parks Department Greenhouse Restoration Initiative included removing three dilapidated components of the facility: a brick smokestack, several wooden greenhouses, and a boiler house. 23.93 tons of metal were recycled from the boiler house alone. In an effort to develop a more sustainable horticultural program, the Greenhouse converted from buying plants, to growing plants from seed. The parks department was able to find innovative ways to reduce costs and provide environmental benefits by using compost instead of potting soil, tilling or raking playgrounds instead of spraying with glyphosate, removing invasive plants, and holding community plant sales.

Land Use/Conservation:

- **Elkhart County Soil & Water Conservation District, Elkhart, Elkhart County, for "Stormwater Alliance Program (SWAMP)"** SWAMP is a cost-share program that covers up to 75% of the total cost of each approved project. SWAMP covers six best management practices (BMPs) that benefit not only the land users, but Elkhart County as well through increased water quality. The six BMPs included in the program are blind inlets, cover crops, filter strips, grade stabilization structures, grassed waterways,

and exclusion fencing. Since the beginning of the project in 2017, the number of participants in the SWAMP program has increased from seven in 2017 to 68 in 2019. Since the program's inception, SWAMP has prevented a total of 20,373 tons of soil from entering local waterways, saved $42,783 in total on-farm nutrient benefit, and saved a total of $100,438 in total off-farm water quality benefit.

Recycle/Reuse:
- **Midwest Dairy Recycling, North Manchester, Wabash County, for "Dairy Recycling Program."** Midwest Dairy supplies its veal operations with calves from local dairies. While working with these dairies, Midwest Dairy learned of milk bottling companies throwing away outdated, nearly outdated, and/or damaged product. After contacting these milk bottling companies, Midwest Dairy constructed a system to collect liquid and dry products at a central location in North Manchester and redistribute the products to its veal operations across Indiana. Since the launch of the program in 2017, Midwest Dairy Recycling has recycled over 2.9 million gallons of dairy milk, 2.2 million pounds of hog feed, 444,568 pounds of plastic, and over 1.4 million pounds of baby formula.

Grants

In 2018-2019, the Office of Program Support received a grant from the U.S. EPA for $135,000 to fund a project titled "Implementing Pollution Prevention (P2) to Reduce Toxics in Indiana". The project is a partnership between IDEM and Purdue Manufacturing Extension Partnership (Purdue MEP) to demonstrate measurable reductions in toxics and other pollutants while achieving cost savings. These reductions will be achieved by the implementation of a proven Purdue MEP W.A.S.T.E (Water, Air, Solids, Toxics and Energy) stream mapping process for identifying wastes and pollution prevention opportunities at participating industrial facilities. IDEM will then issue state level grants funded by federal dollars through an established state grant program to implement those projects that will reduce toxics. During 2020, IDEM signed a grant agreement with Purdue MEP to perform W.A.S.T.E. stream mapping at 15 facilities. During the summer of 2020, Purdue MEP and IDEM issued a joint press release announcing the opportunity. To date, Purdue MEP has performed assessments at 9 Indiana industrial facilities who will be eligible for seed funding for the pollution prevention projects identified.

Indiana's Clean Vessel Act (CVA) pumpout grant program allows a public or private marina to receive a reimbursement of up to 75% for the purchase and installation of a pumpout. CVA grants have funded over 65 pumpouts, 5 pumpout boats, and 2 floating restrooms in Indiana. Installing such a system at Indiana marinas provides boaters with a proper method to dispose of their sewage and prevent it from entering Indiana's waters.

Education and Training Programs

The Environmental Education and Outreach (EEO) coordinator offers presentations for youth and adults on a variety of topics, including the following: air quality; land quality; water quality; recycling and composting. During 2020, EEO visited a limited number of schools around the state due to the Covid-19 closure of schools. Through 38 presentations (seven virtual presentations and thirty-one in-person presentations), 525 students and 111 adults were reached through interactive presentations at these events.

During the month of April IDEM's EEO section typically coordinates Earth Day presentations for Indiana schools. During 2020, these presentations were cancelled by leadership due to the pandemic and closure of many schools.

Conclusion

IDEM continues to make progress implementing the Indiana Industrial Pollution Prevention and Safe Materials Act. The Pollution Prevention and Compliance Assistance Section focuses on continually improving the programs' effectiveness to reduce pollution and accurately measure reduction results. Currently, IDEM does not see a need for additional legislation in this area. For additional information on the state of Indiana's P2 Programs, please call (800) 988-7901

Compliance Advisory Panel Report: IC 13-28-3

CTAP Activities July 1, 2020 - June 30, 2021

The Compliance and Technical Assistance Program (CTAP) is Indiana's small business environmental assistance program, statutorily authorized to operate under Indiana Code (IC) 13-28-1, 13-28-3, and 13-28-5-4. CTAP is a non-regulatory program of Indiana Department of Environmental Management that provides free, confidential compliance and technical assistance to regulated entities.

Per the Clean Air Act 42 U.S.C. 7661f under the heading: Small business stationary source technical and environmental compliance assistance program, the State of Indiana adopted language into the State Implementation Plan establishing a small business stationary source technical and environmental compliance assistance program, CTAP. The Indiana Code 13-28-5-1 Establishment stated in Section 1. The department shall establish a small business stationary source technical assistance program as required under Section 507 of the federal Clean Air Act (42 U.S.C. 7661f).

CTAP was established to help Indiana businesses achieve compliance with environmental regulations.

IC 13-28-3 Chapter 3. Technical and Compliance Assistance Program
   Sec. 2. (a) The assistance program established under this chapter shall do the following:
(1) Designate an individual to serve as a liaison and ombudsman to the regulated community to assist the regulated community with specific regulatory or permit matters pending with the department.
(2) Provide assistance to new and existing businesses and small municipalities in identifying:
(A) applicable environmental rules and regulations; and
(B) permit requirements;
that apply to new and existing businesses and small municipalities.
(3) Develop and distribute educational materials regarding:
(A) environmental requirements;
(B) compliance methods;
(C) voluntary environmental audits;
(D) pollution control technologies; and
(E) other compliance issues;
including standardized forms and procedures for completing permit applications.
(4) Provide public outreach and training sessions in cooperation with representatives of the business and municipal communities regarding existing and future state and federal environmental requirements.
(5) Develop and operate a clearinghouse to respond to inquiries from businesses and municipalities concerning applicable environmental rules, regulations, and requirements.
(6) Provide technical assistance concerning pollution control techniques to local and state governmental entities and businesses and distribute educational materials regarding pollution prevention developed by the pollution prevention division established by IC 13-27-2-1.
(7) Provide administrative and technical support for the compliance advisory panel established by IC 13-13-7.1-1.
(8) Conduct other activities as required to:

(A) improve regulatory compliance; and
(B) promote cooperation and assistance in meeting environmental requirements.
    (b) The assistance program may establish limited onsite assistance to provide compliance information to a small business or small municipality, subject to the confidentiality provisions of section 4 of this chapter. The assistance program may use money from the environmental management special fund to implement this subsection. The assistance program may limit the number of inspections per year and restrict onsite assistance to specific programs.

CTAP can assess the environmental compliance a facility or help address concerns about a particular process or regulation via e-mail, phone, or site visit. CTAP also has the resources to identify pollution prevention opportunities that can move businesses out of the regulatory loop or move it into a less burdensome regulatory process.

Compliance and Technical Assistance Totals for FY2021 (July 1, 2020 to June 30, 2021):

- Compliance Assistance site visits were halted during several months of 2020 due to the pandemic. However, CTAP staff were able to still conduct 52 site visits. During these more in-depth compliance site assessments, a business or organization invites the CTAP staff to visit and assist with compliance with an individual regulatory area or for a full compliance site assessment.

- The majority of our work continued in the form of regulatory and technical assistance via phone, email and portal. CTAP staff handled over 652 calls and emails from various businesses, individuals and organizations during this time period.

- A new Webinar series Environmental Management 101 (or "E101") was created and launched in November 2020. CTAP has hosted seven webinars in this series with registration over 1,100. The recordings of each webinar are housed on the CTAP website.

Additional Technical Assistance Provided:
- CTAP staff worked closely in partnership with the Indiana Economic Development Corporation (IEDC) and Indiana Small Business Development Corporation to assist new businesses in understanding regulatory requirements for Indiana business development. In 2020, CTAP staff provided a review of potential environmental regulatory applicability to IEDC for 258 businesses that were looking at Indiana to either develop or expand their business.   Seventy-four of those businesses located in the state bringing 9,733 jobs and $2,290,447,203 in new investment in the Hoosier state.

- The CTAP manager and staff in coordination with IDEM Information Services and Indiana Office of Technology developed a CTAP portal and database to better serve our customers. The CTAP portal allows customers to open a secure account in Access Indiana to enter new service requests and receive confidential regulatory assistance from IDEM CTAP staff.

- Staff aided the Environmental Stewardship Program members by assisting with various regulatory questions, providing pollution prevention project ideas and giving an overview of IDEM rulemaking and regulatory changes at their annual meeting.
- CTAP staff conducted site visits to review activities and monitor environmental compliance of the Indiana Governor's Awards for Environmental Excellence, Community Recycling Grant, and Recycle Market Development Grant applicants

- The CTAP website was updated with current regulatory information and technical guidance. The program had almost 25,000 website hits to its webpages in 2020.
- Our CTAP Small Business Regulatory Coordinator performed her duties as described in IC 4-22-2-28.1 by providing rule summaries and assistance to Small Businesses when requested.

Mercury Switches in End of Life Vehicles Activities: IC 13-20-17.7

This program was established to remove mercury switches from end of life vehicles processed in Indiana by motor vehicle recyclers.

IC 13-20-17.7-2 requires IDEM to prepare an annual report that includes the number of mercury switches collected from end-of-life vehicles and the amount of mercury collected.

Mercury Switches Activities January 1, 2020 to December 31, 2020

Total Number of Recyclers	522
Total Number of Mercury Switches Collected from End-of-Life Vehicles	5,136 switches
Total Amount of Mercury Collected	11.30 pounds